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EDITED BY

SMITH ELY JELLIFFE, A.M., M.D., PH.D.

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ORIGINAL ARTICLES.

PRACTICAL NOTES RELATIVE TO RABIES

BY N. G. KEIRLE, A.M., M.D.,
OF BALTIMORE;
DIRECTOR OF THE DEPARTMENT FOR THE PREVENTIVE TREATMENT OF RABIES, COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE.

AT what time and under what circumstances should patients be advised to submit to treatment? With what material and in what manner are they treated? What risk attends treatment? If a human being contracts rabies, he inevitably dies. There are no verified cases of recovery. Three cases are recorded in which general paralysis developed during treatment. They all recovered. In one case, the treatment was not discontinued. Whether these were cases of paralytic rabies cured by treatment is a question regarding which a consensus of opinion has not been attained. Treatment should be resorted to as soon as possible. Delay is not only dangerous, but may be deadly. A physician consulted me regarding a bite upon his hand. He had already delayed ten days, awaiting the result of an inoculation experiment. He was advised to take treatment without further delay, but failed to do so. He developed rabies about as soon as the inoculated animals. Two patients were advised to submit to treatment at once. They refused, stating they would await the result of the inoculation experiment. Rabies developed almost simultaneously in both the experiment and patients. However, a number, though not treated, escape. An example of this was a child bitten severely on both arms. The dog had been experimentally demonstrated rabid.

As to risk, there is none greater than the rare and unjustifiable occurrence of abscesses. Lumps caused by proliferation of connective-tissue corpuscles are common, as is also a local or general erythema. The length of time of treatment should not be less than twenty-three days. If very severely bitten, and there is persistent induration about the wounds, it is advisable to continue treatment off and on until the induration subsides. Unless it is certain that rabies is absent, those exposed should not be held pending investigation. The affirmative result of the morbid histology, or experimental inoculation, is a demonstrated certainty. If there is a suspicion of rabies, the patient should be given the benefit of the doubt and should be treated without delay.

If the biting animal can be securely kept, it is a mistake to kill it. Treat the patient and observe the animal. If after a few days it is evidently in sound health, the treatment may be stopped. A lady seeking her stray dog visited a pound. She did not find her dog, but the good and amiable points of another dog were pointed out to her, to observe which she had to stoop over the animal, whereupon it seized and severely lacerated her lip with its teeth. This being a very dangerous situation for such wounds, she was treated at once and the dog visited for four days. It became evident that it was merely a vicious brute, and treatment was discontinued.

This question is frequently asked: What kind of serum is used in treatment? It is not serum. There is no serum antitoxin analogous to that of diphtheria. The therapeutic material used is a portion of the spinal cord of a rabbit that has died of rabies. This is rubbed up in sterile cool water. These spinal cords have been dried over caustic potash which diminishes the amount of virus, but does not attenuate it. The virus is in a condition termed fixed (*virus fixe*). This is a virus which, inoculated subdurally in a rabbit, causes rabies after six days. Before it attains this condition of fixation, it is necessary to inoculate from rabbit to rabbit until it has passed through about fifty. In the first inoculation, rabies does not develop until the completion of eleven, twelve or fifteen days. The medulla oblongata is used in the inoculations of animals. Prior to experience it seems rash to inject a deadly virus into a human body. Pasteur demonstrated its harmless efficacy. The immense gulf between scientific audacity and foolhardiness had been securely bridged with experiments. The method of treatment is subcutaneous hypodermic injections. For convenience, the abdominal region is selected.

Among fanciful methods of treatment, there is the madstone. If it adheres virus is present; if it becomes coated with green, there is virus extracted; perhaps this really is the green pus organism. Raw livers of rabid dogs have been fed to patients. The brains of rabid rabbits have been suggested as therapeutic food.

In India the entrails of an insect are administered, which causes bloody purgation. The patient is also exposed to the heat of the sun. This remedy caused bloody dejections in an inoculated rabbit, but it in no way modified the fatal result.

Bile renders the rabic virus inert, but this mixture fails to confer immunity. The destruction of virulence probably is due to cholic acid (M. H. Valée, of Toulouse, *Annales de l'Institut Pasteur*, June, 1899). Out of the body rabic virus is sterilized at a temperature of 108° F., which is the normal temperature of a hen. In this fowl, when subdurally inoculated, the disease runs a protracted course, and its medulla oblongata becomes inert, sterile. The temperature of a living, inoculated rabbit may be artificially raised until

it reaches 110° F. in its medulla oblongata, but the virus is in no degree modified by this heat, which cannot be endured, but speedily kills. The time is too short for sterilization. The temperature in the human medulla oblongata may be raised to 106° F. by exposure of the individual to dry heat of 180° F., which cannot long be safely endured, nor would it sterilize.

In the nervous system, a morbid histology in rabies is evident, but it is not absolutely pathognomic of the disease. It may be also present in other diseases, which, however, are uncommon in those animals in which rabies is common. In the *Annales de l'Institut Pasteur,* M. V. Babes of Bucharest, in April, 1892, described, in the medulla oblongata and cord, pallor of cell protoplasm, vacuolation, pigmentation and nuclear division, hyaline degeneration of nerve-sheaths and vessels and small-cell exudate. An interesting and characteristic change is observable in the histology of the ganglia, especially the intervertebral. Pathology in this country is indebted to Drs. Ravenel and McCarthy of the University of Pennsylvania for a most instructive exposition of these changes (Rapid Diagnosis of Rabies, *University Medical Magazine,* Phila., January, 1901), which consist in the breaking up of the cells bordering the capsules of the nerve-cells, which themselves are overlaid by these dispersed neuroglia cells. In many parts, the nerve-cells have disappeared. The section is bestrown with small cells.

With such histology, rabies is almost surely present. Without it, rabies is almost surely absent. In either case, treatment should be given. Absolute certainty at present is an unattainable desideratum.

In the preparation of the cords and in the treatment of patients, the technic of the Institut Pasteur, Paris, has been strictly adhered to, from which methods there are deviations. Of these the attempt to preserve cords and their virus in glycerin is very unreliable. If the glycerin is neutral and remains so, the cord may retain its virulence; but, if the glycerin undergoes change, especially if it become acid (which it is liable to do), the virus will be destroyed, and the cord rendered sterile, inert, useless.

ACTINOTHERAPY IN CUTANEOUS MEDICINE, A PRELIMINARY COMMUNICATION.[1]

BY WILLIAM S. GOTTHEIL, M.D.,

OF NEW YORK.

THE employment of light as a therapeutic agent is no new thing in medicine. The best term to employ for this method of treatment in general is phototherapy. The use of that especial form the discovery of which has immortalized the name of Röntgen is generally known as radiotherapy. Actinotherapy seems to be the most suitable designation for the employment of ordinary sun or arc light, or portions of their rays. It is to this latter that I desire to call attention.

[1] Read before the Section on Cutaneous Medicine of the American Medical Association, St. Paul, June 3, 1901.

To go no further back than the time of General Pleasanton, most of us recollect the 'blue glass craze" that then swept over the land. Wonderful therapeutic results were attributed to its use; and isolated specimens of the blue glass panes that then appeared in so many southern windows may still be seen. But Pleasanton and his followers truly saw "as through a glass, darkly"; their method was not only empirical, but was developed largely by persons who had no medical knowledge; and it never, therefore, obtained the general recognition of the profession.

The bactericidal action of light is now a well-known and established fact. Cultures of many virulent and pathogenic microbes die in a short time when exposed to properly concentrated light. Axel. L. Larsen[1] has lately gone over the ground again with the pus organisms, the colon and typhoid bacilli, etc., and has endeavored to ascertain the time required to weaken and destroy them with given concentrations of light. But this is by no means its only action and probably not even its chief one. Light irritates the cutaneous nerves, and so affects the central nervous system. It increases the oxidation processes in the cells and the amount of hemaglobin in the blood. This heightened tissue metamorphosis is possibly the factor on which its future therapeutic application will be based. The ordinary phenomena of transillumination show that light penetrates the skin. Contact photographs have repeatedly been made by means of light that has passed through the human body, notably by Kime of Fort Dodge and H. L. Mason of New York. Glass tubes containing sensitive silver salts have been introduced under the skin of animals and have shown the characteristic effects of light penetration on removal.

To Neils R. Finsen of Copenhagen, however, belongs the credit of developing the light treatment and placing it upon a scientific basis. Since he recorded the good effects which he had gotten in variola from the employment of red light several years ago, he has been an indefatigable worker in this field; and to-day his Actinotherapeutic Institute in Copenhagen has a world-wide reputation and enjoys the active support of the Danish Government.

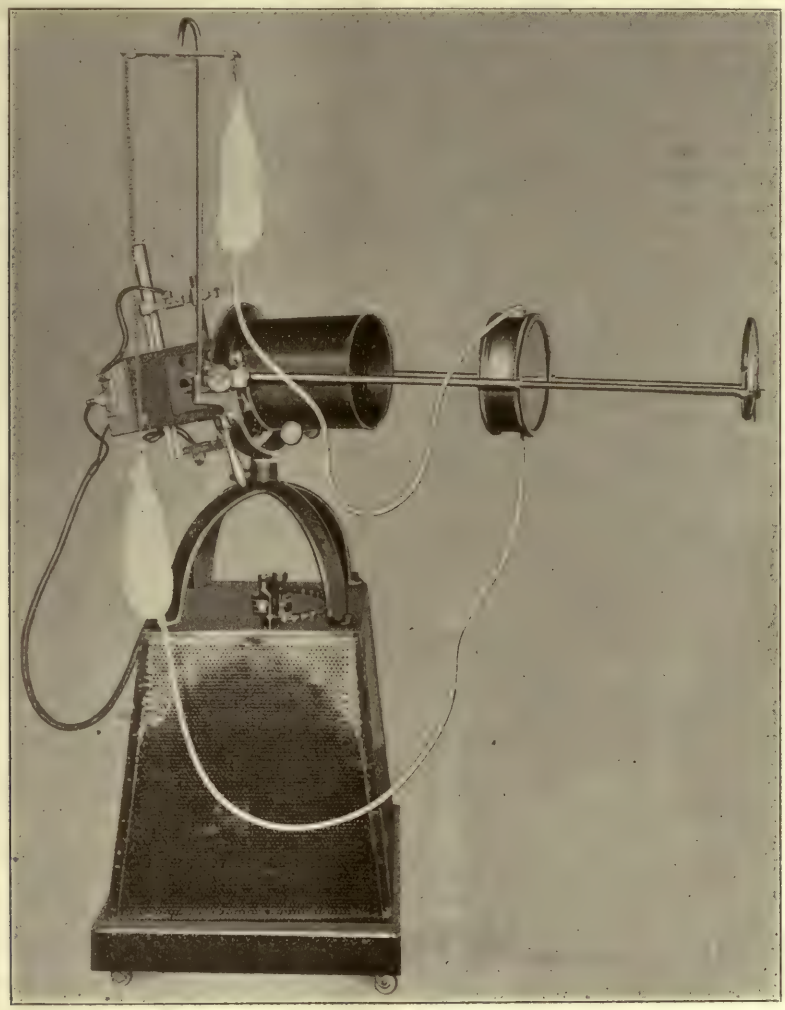
I shall leave out of account, as foreign to the object of this preliminary paper, the work that has been done in other than dermatological fields with the new treatment, or an account of the various forms of apparatus that are employed. Suffice it to say that Helm[2], Gerson[3], Morris[4], and Finsen, Bie, and their collaborators have employed it in many varied dermatoses with a large proportion of good results. Besides lupus and the various dermal tuberculoses, in which it is possibly destined to be the treatment *par excellence*, it has been used in lupus erythematosus, psoriasis, epithelioma, acne vulgaris, rosacea,

[1] Mittheilungen aus Finsens Medicinske Lysinstitut, 1900.
[2] Deutsche Medicinal-Zeitung, No. 10, 1900.
[3] Archiv für Lichttherapie, Vol I., No. 3.
[4] British Journal of Dermatology, August, 1900.

alopecia areata, eczema, ringworm, contagious impetigo, and various ulcerations with success.

Either sunlight or the electric arc can be employed, but the former is too uncertain in most parts of our country to be relied upon. The chemical or actinic rays of the more refrangible end of the spectrum are the elements from which therapeutic effects may be expected, and we have fortunately in the electric arc a source of light which is accessible in all our large centers at any time, and which is especially rich in them. Sunlight is cheaper, of course, but it is only in regions like California or New Mexico, where it would have to be relegated to institutions where the necessary elaborate arrangements for the simultaneous treatment of a number of patients could be made. Increase of the amperage employed and reflection and concentration of all the available rays upon the area to be treated have enabled me already to reduce it very materially, and I have no doubt that further progress in that direction will very shortly be made. I now give half-hourly sittings every other day. The question is solely one of actinic light intensity.

I employ the instrument manufactured by Kliegl Brothers, of this city, and called by them



The Actinolyte.

can be relied upon for any great part of the year, that the expense of installing a sunlight apparatus would be warranted. The arc light can be employed on cloudy days, or in the evening; and this leads me to mention and dispose of one apparent disadvantage of the process. The actinotherapeutic treatment takes time; of that there can be no doubt. But I am convinced that it does not even now require the hourly sessions every day which Finsen gives his patients. Were that the case, no matter what its advantages, it

the actinolyte. It consists essentially of an arc light with the necessary arrangements for automatic action, enclosed in an iron hood. In the hood in front of the arc is a double convex condenser, adjustable for focussing purposes by means of a rack and pinion. On rods that project in front from each side of the hood is a double convex focussing lens, also adjustable. By means of these condensers a circle of light of any size can be readily obtained; of course, the smaller it is the more intense is the illumination. The

hood is swung in such a way that it can be raised or lowered, or swung laterally or vertically, thus making it possible to project the light spot with exactitude upon the area that is to be treated. On the front bars and between the hood and focussing lens is a cell for the purpose of containing the fluid to cut off the heat rays. This can be filled with distilled water or methylene blue or alum solution; or it may be connected with the two water-bags for which arrangement is made so that a continuous stream of heat-absorbing fluid may flow through the cell. So far I have found plain cold water without continuous flow quite sufficient to prevent any unpleasant heat effects from the concentrated light. The base of the instrument contains a suitable rheostat, with a selector on top. Either the continuous or the alternating current may be employed and from 25 to 55 amperes of current can be used. The candle-power obtained varies, of course, with the amperage. With a concentrated circle of light it runs from 20,000 to 60,000.

I am not prepared as yet to make a definite statement of the results obtained with the treatment save in two cases. In one patient with extensive lupus vulgaris they promise to be brilliant. The only area that has been treated, some two inches square, presents a marked contrast to the other locations where the disease is progressing. It is almost white, only two or three lupoid nodules remain, and they are disappearing. And this has been accomplished without ulceration, or even inflammation; the process has been entirely one of interstitial absorption. All the other areas are characteristically infiltrated and scaling. The patient has had absolutely no other treatment.

The second case is one of obstinate tertiary syphilitic ulceration of the leg. The light has apparently had a very good effect in stimulating the indolent glazed ulcer, so that it is now nearly healed, after resisting other internal and local treatment for weeks.

Now as to the advantages of the method. First and foremost it is eminently conservative. It causes no radiodermatitis, ulceration, or loss of hair, such as too often, though sometimes necessarily, occur under the Röntgen treatment. I do not know of the record of any serious trouble from its employment. Finsen rightly lays stress upon this point; and to dermatologists it is of special importance, since many of the affections that they are called upon to treat occur upon the face. In the second place it is entirely painless. This is a great desideratum, more especially in dealing with women and children. Third, it is effective. New as the method is, there is already concurrent testimony from a sufficient number of competent observers to demonstrate that we possess a powerful therapeutic agent in concentrated light.

Leaving to others the study of the effects of actinotherapy in the general conditions and affections of the internal organs in which it may prove useful, it is to be presumed that by dermatologists it may be employed in the various skin affections which are dependent upon micro-organic or parasitic infection, or where increased tissue metamorphosis is a desideratum. Lupus vulgaris, lupus erythematosus, mycotic eczema, trichophytosis, favus, impetigo, furunculosis, tuberculosis cutis, epithelioma, mycosis fungoides, blastomycosis, actinomycosis, and similar affections are the diseases in which it is likely to prove useful.

144 West Forty-eight Street.

IDEALS IN PHYSICAL EDUCATION.

BY D. A. SARGENT, M.D.,
OF CAMBRIDGE, MASS.

IN reviewing the achievements of the past century in physical education we cannot help being deeply impressed with the substantial progress that has been made. You are all familiar with the general history of the subject, in this country at least, and I will not take your time this morning in enumerating dates, or recounting the epochs and events that have marked the successive stages in the advancement of our cause. My purpose is rather to take up the status of our work (physical education) at the present time, to consider some of the drifts and tendencies that are shaping its course, to make a critical review of some of the evils that beset us, and then see if we cannot find some common ideals towards the realization of which we may direct our energies.

In considering the present status of physical training in the United States we find it established in some form or other in 270 colleges and universities—98 are doing organized work, 72 require physical exercise and 24 give credit for it in the course which counts for a diploma. About 300 cities have introduced physical exercises into the public schools, and 100 of them have special teachers. There are about 500 Y. M. C. A. gymnasiums in different parts of the country, with a corps of some 300 physical directors and 80,000 members. The North American Turnerbund has some 300 gymnasiums and about 200 instructors and some 45,000 members. There are perhaps 100 athletic club gymnasiums of one description or another and a few out-of-door and public city gymnasiums. Then there are many gymnasiums in private houses, churches, hospitals, sanitariums, army and navy depots, police quarters, engine-house stations, mission houses, industrial schools and many other institutions to the number of several hundred. In addition to this form of physical training there are a great variety of special athletic clubs for boxing, fencing, bowling, boating, canoeing, swimming, bicycling, etc. Then there is golf, tennis, baseball, football, with their ardent devotees and numerous following, together with the more passive forms of exercise such as riding, sailing, driving, etc., which have many admirers.

Taking all the sports, games and well-established forms of exercises into consideration, it is safe to affirm that they represent millions in capital invested and affect the lives of millions of our people. The amount of money which a people are willing to spend in the furtherance of a movement is a pretty good indication of its value in their estimation, though if judged from an educational point of view this value would probably be considerably discounted. If we were to estimate the value of the century's efforts in physical training by the effects produced, the problem would be a difficult one on account of the many factors involved, and the increasing number of influences that tend to neutralize all the good effects that might be derived from systematic physical exercise. Those of us who are engaged in making physical examinations know the effects which the practice of special forms of exercise have upon the individual, and it is fair to presume that the same exercises practised by many people will tend to have similar effects. Thus, when a great popular interest sweeps over the country for bicycling, lawn tennis, golf, boxing, or football, the tendency will be to produce among the masses the same mental and physical characteristics that are recognized in the individual devotees of these popular pastimes. It is hardly necessary for me to dwell at this time upon the special effects of these forms of exercise for you are all more or less familiar with them. No one would be regarded as perfect from a mental, moral, or physical point of view, and yet they have produced a most profound effect upon our people. Bicycling, lawn tennis, and golf have been especially valuable to our women, inducing many to exercise who never exercised before. These three sports have probably done more to overcome the evils of tight clothing than a whole century of preaching and lecturing on this subject. Boxing, football, basketball and other antagonistic games have done a great deal to lessen the evils of over refinement and excessive sentimentality, and they may be conducted in such a way as to develop a firm character and a manly spirit. But there are certain inclinations connected with the development of competitive sports and antagonistic games that are not only detrimental to physical training in its best sense, but are also demoralizing to our youth and to the public in general.

Let us consider some of these drifts and tendencies. Thirty years ago amateur baseball was at its height in America, and there were well-organized clubs in nearly every city in the Union. To-day there are a very few amateur baseball clubs outside of the colleges, and the interest in this once popular sport is declining in our institutions of learning. Professional baseball has superseded amateur baseball in popular interest, and although the game is just as beneficial from a physical and recreative point of view as ever it does not have anything like the following it once had. The interest in college boating culminated in 1875, when thirteen crews were represented at Saratoga. In some colleges this sport has been abandoned altogether. In a few institutions it has been re-established, and in some, especially at Harvard, there is a great revival of interest in boating, as many as twenty eight-oared crews being on the river at one time. The practice of archery was quite generally established in this country in the early seventies, and there were numerous clubs of both sexes that rallied around this form of recreative exercise. The interest culminated in 1879 and at the present time there are few archery clubs in existence. The so-called higher gymnastics attained their greatest prominence in the colleges and city gymnasiums in the early seventies. Boxing and wrestling contests attained their greatest popularity at Harvard in 1883, '84 and '85 and are now practically abandoned, although there are two instructors in boxing regularly employed at the gymnasium. The interest in lacrosse and cricket has waxed and waned, but the games have never been entirely abandoned. Field and track athletics have a strong following in the vicinity of New York, Boston and Philadelphia, but attract small audiences and little attention in the colleges and other communities compared to what they did a few years ago. The great city athletic clubs, which once fostered track and field athletics, now seldom have any representatives from their own membership in the public contests, and confine their attention to exploiting the athletic abilities of outsiders for the entertainment of their regular members. Some of these athletic clubs, notably the Boston, act as patrons for school and college athletes, and do a great deal to encourage the practice of out-of-door sports and systematic exercise among their junior members. Many of these city athletic clubs, like the Orange of New Jersey, Washington, Detroit, St. Louis, Providence, Pastime in Brooklyn, Manhattan in New York, Staten Island, Fitchburg, Nationals, Louisville, Philadelphia, etc., have been given up entirely or turned into social clubs.

Notwithstanding the rise and decline of interest in many of the popular sports and exercises, there never was a time in our history when so much attention was given to sports in general as at the present day. As the interest in archery, roller-skating and croquet and boating declines, the interest in bowling, bicycling, golf, canoeing or some other sport increases. Then again, the interest in certain sports, although less intense, may in reality be very widespread and be participated in by a great many people.

Now the important question is, what are the factors which cause some sports to decline and others to be perpetuated in popular favor? In answer to this question we are forced to admit that fashion plays a very prominent part, bringing into vogue at one time sports which have but few valuable features, and sweeping away at another time exercises of the greatest importance. Some of the special forms of exercise like archery, fencing, Delsarte, etc., may be taken up as society fads, and be rushed for a few seasons and

then become obsolete. Even the more serious forms of exercise are sometimes taken up by society because they are thought to be the "proper thing," without regard to their hygienic or educational value. In fact, I should be rather loth to admit to this semi-scientific association how much of our work is without scientific or artistic value, because it is governed so largely by fashion and caprice. Again the spirit of emulation and competition which we try so hard to foster and cultivate has its limitations, and it is a serious question just how far it can be carried without detriment to the cause we are striving to advance. A high spirit of emulation breeds rivalries and enmities and often stirs up bad blood and leads to the establishment of more or less permanent factions which may work great harm to a school or club. This is especially likely to be the case where competitions are confined to members of the club or to the different classes of a school or college. What discussions upon religion and politics are to social clubs, so are athletic contests to athletic clubs if the contests are limited to members. The hardest struggles on the athletic field are frequently between classes or members of the same institution for positions on class or university teams. The feelings of bitterness and enmity often engendered by these hard contests in schools and colleges are softened and assuaged by the thought that knocks, strains and bruises must be endured in practice in order to enable the chosen school, college or university team to vanquish its rival from some other school, college or university. In this way a feeling of unity and solidarity is often established in an institution, which might otherwise be broken up by feuds and dissentions. It is the lack of this feeling of unity on the part of the city athletic club, and the unwillingness of its members to endure the hardships of training for the severer, yet only contests which the other members care to see, which makes these clubs after a few years fall apart simply from lack of any common interest to bind them together.

Another disrupting influence is the establishment of too high a standard. This is one of the evils of professionalism, and really marks the underlying difficulty of settling who is and who is not an amateur. The poorest professional must be a better performer than the best amateur in order to constitute himself a professional and be able to receive money for his services. But the receiving of money is a secondary consideration which follows the presumption of superior merit. This results from long and persistent practice or training such as a person is obliged to undergo in preparing for a life's profession or occupation. When therefore students, clerks and young men who work with their brains rather than with their muscles are urged to practise certain exercises or sports as a means of improving their health and physique, and are offered prizes or trophies of victory as incentive for them to train and compete, one of the first essentials of a fair contest is to see that those who entered the competition are of the same class or on somewhere near the same footing. Now, if the contest is in rowing and those who make a business of rowing are allowed to enter, the conditions would be unfair, as students who are engaged in their studies, or clerks with their bookkeeping through the working hours of the day, and who only take up rowing as a recreation or pastime, cannot compete on anything like equal terms with professional oarsmen. It would be just as absurd to expect the professional oarsman to compete on equal terms with the student in solving mathematical problems or with the clerk in bookkeeping or penmanship.

When, however, sports and pastimes are pursued with so much intensity as ends in themselves, rather than as means to an end, and the devotees give so much time to practising them that they haven't time or energy enough left to give to other pursuits, these persons are just as much professionals in the true meaning of that term as they would be if they received money for their services. These are the type of athletes that have been supported and exploited in the past by some of the large city and university athletic clubs. Although they have won prizes for their clubs, I can hardly believe they have won honors, indeed I am sure that this style of athleticism has done great injury to the cause of physical training. First, by placing all the records so high that bona-fide amateurs will find great difficulty in surpassing them; second, by discouraging and literally driving out of existence the smaller clubs that could not afford to follow the same tactics; third, by causing a decline in active interest among the members of these clubs who cannot give the time and attention from their business that will enable them to compete with the performances of star athletes and who, therefore, do not compete at all. As long as the public is content to see the best performances without regard to the status of the competitors, there will always be a tendency towards professionalism which will have to be guarded against by very stringent rules. One of the best ways of meeting this objectionable tendency in school and college athletics is for the authorities to insist that all contestants must not only attend to all of their school and college exercises, but they must give evidence of having done a certain amount of work and attained a certain rank therein. If the school curriculum is what is ought to be, this will insure that the students will not give too much time to their athletics and that the work that they do engage in will tend to give them a sound mind as well as a strong body.

I have dwelt at some length upon this tendency of antagonistic sports and highly competitive games to exterminate themselves, when not properly managed, because I deem it of the greatest importance that this fact should be thoroughly understood. There is no use denying the fact that athletic contests afford a stimulus to effort to a great many boys and young men, and even to girls and young women, which no other forms

of exercise can give. The problem is how to control these sports and yet keep up the interest, how to eliminate the evil and yet preserve the good. We have seen that when the competition was restricted to one class, school or club, hostile factions were formed and bitter rivalries engendered. Much of the hard feeling and enmity that existed between school and college classes years ago, when the practice of hazing was in vogue, were greatly intensified by class contests in football, rope-pulling, cane-rushing, etc. This feeling of enmity between classes is now fortunately a thing of the past in most institutions. I am not so sure, however, that it has not been transferred and even grown to a greater degree of intensity between rival schools and colleges, judging from the nature and tone of many of the alumni speeches that have been made and reported during the past winter. The rivalry in antagonistic games in many of our schools and colleges has now become so fierce and the desire to win has become so overpowering that there is not a little danger that amicable relations between some of these institutions may be overstrained.

One of the great charms to me of our Association meetings is the opportunity presented for seeing those who are engaged in the same work in rival schools and colleges, and in learning from experience instead of hearsay that they are not fiends, ogres or cannibals, but really good-hearted fellows having the same high aims and noble motives as ourselves, though they may have different ways of showing them. When we ask a friend to assume to be an enemy in order that we may arouse our fighting spirit and practise our animal instincts upon him, it is not a little strange that the imaginary attributes which we repeatedly give to him, are after a while difficult to efface. This is especially so if the fancied realism adds so much to our fierceness of attack and defence as to enable us to win a victory. A man instinctively shrinks from falling upon another man's head under the ordinary circumstances of life, but a man so considerate of an opponent's head or person would not make a successful football player. When the papers were filled with denunciations of the West Point cadets for their rough and cruel practices upon under class men, it did not occur to the general public that these are qualities that must necessarily be bred into the man who would become a professional soldier. A much more agreeable way for us to become reconciled to the stern qualities in our young men, especially if we wish to raise an army, is to attribute these rough, cruel and even fiendish qualities to those who happen to be for the time being our enemies. We have all read about the inhuman cruelties of our Southern brethren during the Civil War, the barbarous cruelties of the Spanish soldiers, and the fiendish conduct of the Chinese Boxers and the Filipinos. By attributing diabolical qualities to an opponent we may excuse ourselves for trying "to do him up" or "put him out of the game." These are simply the remnants of primitive characteristics, possessed by our early ancestors, when those who were not members of the tribe were enemies of the tribe, whom it was one's first duty to wound or kill. When rival boxers deliberately try to "knock each other out," and friendly baseball players "spike" a runner, or throw dirt in a baseman's eyes; when the fair devotees of basketball hiss every attempt of the visiting team to make a goal; when grave and dignified professors rush up and down the side lines of the football field shouting, "down him," "kill him," and delicate ladies who but a moment before shrunk from witnessing the "brutal" game, with flushed cheeks and staring eyes wildly shriek their approval, one might reasonably ask if this, also, is not an exhibition of some of the recurrent traits of our barbaric ancestry.

Of course these are exceptional occurrences, but if you have any real doubt as to the passions which are swaying the minds of most of the spectators, as well as the participants, during an exciting football game or boxing match, just watch the faces of the audience during these antagonistic exercises. To be sure there is the joy of victory to the side that wins, there is also the chagrin of defeat to the side that loses, and it is a question if the prolonged depression that follows defeat does not more than offset the temporary pleasure of victory. It is certainly true that the feelings engendered between institutions by violent athletic contests does not tend to unite them, when harmonious relations and unity of spirit seem altogether desirable. We have seen that when athletic contests were confined to the members of different classes in the same institution that the rivalry became intense and the spirit bitter, and that the only way to relieve this tension and hard feeling was to unite in competition against some other institution. As this movement, which has now been in operation for twenty or thirty years in some of our colleges, is beginning to breed the inevitable bitterness of feeling that sometimes finds expression in a phrase that consigns a whole institution to the infernal regions, the question arises whether these rival colleges cannot unite against some common enemy or institution and thus work together in harmony. The union of Harvard and Yale against Oxford and Cambridge in their athletic games in England, and the American team at Paris and at Athens, are illustrations to the point.

In arranging for international contests to take place every four years in which the winners in the intercollegiate contests could be represented, a new interest and a new zest would be given to athletic games, and their real significance might be brought home to our people, for they would soon learn that this was one of the best means of preserving our National Unity. The rivalry that exists between nations is a fundamental one, and is based largely upon differences in race, blood, nurture and environment. There is no natural rivalry between States, cities and institutions in our country founded upon the personal qualities of those who were born, bred and educated there-

in. Would that there were. A city baseball nine or a college athletic team may be made up of representatives of all parts of the country. Whether these men are successful athletes or not will depend largely upon their own superior natural abilities, their previous training, and the way in which they are handled or managed. Why a city, a college or a community should pride itself upon the achievements of a baseball nine or an athletic team which it never produced is one of the things that I have never been able to comprehend. The only justifiable ground upon which any such pride could be based is that these athletic teams represented the return of a system of physical training open to all, in which the victorious athletes had had to fight their way up, step by step, through preliminary contests until they won a place on the boat or university team. And even then the only thing worthy of recognition in these prolonged contests by a great university would be the triumph of better blood, better brains, better hearts, better lungs, better nerves, muscles and tissues. If the totality of these valuable essentials to life, health, happiness and success have not been increased in the college community at large by the influence of athletics, then these much lauded exercises may be considered not only of doubtful value but even of positive injury to an institution of learning. Happily the average physique in our secondary schools and colleges is improving slowly.

At the present day every alumnus rejoices in the athletic victory of his school or college team, because he thinks the public will consider the achievements of this team a fair representation of what his institution is doing for the physical training of its youth. How seldom this is true! In intellectual training all school men are required to come up to a certain minimum standard of excellence before they can enter college, and again before they can receive their diplomas. There is no such incentive to keep the mass of students up to a required physical standard, and the gulf between the lowest and the highest is great indeed. A few years ago the college gymnasium directors, believing that a moderate degree of physical strength was the fundamental basis, not only for all forms of athletics, but for health itself, decided upon a uniform system of strength tests by which to gauge certain functional powers in their respective pupils. The test consisted of an all-round trial of strength of back, legs, arms and chest, in which the sum total of the several trials was to represent the total strength of the individual. After the candidates for all the athletic teams have been chosen, a great many men who desire to have something definite to compete for, are left without any incentive. One object of the college strength test is to furnish an incentive for a large number of men to keep up their physical exercise by giving them an opportunity to record their improvement and compare it with others measured by the same standard.

The method adopted has been in use at some of our colleges for over twenty-two years, and now offers a basis of comparison between two generations and the individual records of over twenty-five thousand persons. In order to encourage a great number to compete every college in the league agrees to send in to the committee a list of its fifty strongest men, and the college having the fifty which makes the largest total wins the highest honors in this contest for the year. Last year Columbia was first on the list, with a total of 59,489.4 points in which each of the fifty men represented averaged 1,157.2 points. Now, the point which I wish to make is that, notwithstanding the high average made by the first fifty representing Columbia and the other colleges in the league, in all probability the average of all the men examined would not be much over 500 points. In other words, fifty per cent. of all the men examined would fail to make a strength test which was equal to half of that surpassed by the first fifty. While if we make comparisons with the individual men who head the list, we find that over half of all those examined fail to make a test equal to one-third of that attained by the leaders. Now these facts emphasize three things, the stimulating effect of a comparative record or contest upon a considerable number of men, the remarkable increase in functional power that can be attained by systematic training, and the large number of college men who never begin to realize one-half of their possibilities in the way of physical improvement.

The great objection to all forms of athletic competitions and strength contests is that after a while, as the standard rises, they are likely to be pursued as ends in themselves, as I have stated before, rather than as means to an end, which is the betterment of the whole organism. But unfortunately this objection is not inseparable from mental contests, and in both instances those men come to the front whose constitutions are best adapted to stand the strain to which they are subjected. By this method of selection our higher schools and colleges are fostering two distinct types. One type devotes itself to the supreme development of the mind, and the other type to the supreme development of the body. The latter type is best calculated to survive, because it has to meet certain mental requirements of the faculty. But neither type represents the average student, and yet it is the condition of the average student who shows what our schools and colleges are doing for the country.

The more experience I have in teaching physical training and the more I observe its results, the more I am convinced that the highest ideal for which we should strive is the improvement of the individual man in structure and in function. This was the conclusion that I came to some twenty-five years ago, and time and experience have given it confirmation. With this ideal in mind all the diverse forms of exercise and games, all fads and specialties, all methods and systems may be weighed in the balance and credited for what they are really worth. For it is not

a runner, a jumper, a boxer, a ball-player, an oarsman or a gymnast that we are trying to produce, but the highest type of a physically perfect man. This forbids excessive development in any one direction, which specialists are constantly striving to attain. It also makes overexercise and overtraining inconsistent with the object in view. It furnishes a constant incentive to well-directed efforts and right methods of living. It is not necessary to hunt for a competitor, for one is always in competition with himself, endeavoring to make his condition to-day better than it was yesterday and so on from week to week and from month to month. If one wants an opponent, he accepts him as a friend. For, as Burke says, "He that wrestles with us strengthens our nerves and sharpens our skill. Our antagonist is our helper." The great thing to be desired and attained is that prime physical condition called fitness—fitness for work, fitness for play, fitness for anything a man may be called upon to do. Is not this a condition worth striving for? How few of us realize the dignity and importance of the work in which we are engaged. Trying to assist Nature in developing and perfecting her handiwork, not simply mending bones, patching wounds and relieving functional disturbances, but trying to lift man on to a higher plane of living, by improving the structure of his bones, muscles, nerves and tissues, and increasing the functional capacity of his whole organism. This is the highest kind of constructive work, in which the building of all other material structures sinks into utter insignificance. If there are those among you who sometimes get disheartened and discouraged because you think your particular branch of service is not appreciated, I trust you will let this ideal take possession of you.

Drink into your very soul, the true aims and noble purposes of your profession. Then if you do not feel inspired to go on with your glorious work with renewed courage and greater energy, you are not made of the stuff of which good teachers of physical training are made. If you do become possessed of the true ideals all of your work will assume a new significance to you. Balls, bats, wands, Indian clubs, dumbbells, chest-weights, ropes, ladders, bars, and all the apparatus of the gymnasium will take on a new importance.

Free exercises, dancing steps, plays, games and "sleights of art and feats of strength," even the schoolboy's "stunts," all will be brought under tribute and made to aid you in getting hold of some indifferent soul, and inducing him to make efforts for himself. All criticism against childish sports, trivial plays and undignified movements and exercises will be simply laughed to scorn, for what dignity has any movement or exercise except the dignity of the mind that directs it? Something of this spirit must have possessed the minds of Agesilaus and Socrates of old, who did not disdain to practise the child's play of "riding a stick" for exercise.

It is the same spirit that induces many over-brain-worked business and professional men, many closely confined clerks and shop girls, to take regular systematic exercise at their homes or boarding-places, when golf, tennis, the bicycle and the gymnasium are inaccessible. And I regret to say that it is a lack of this spirit that puts so many of our college athletes out of condition after they have entered upon their life's work. Finding no opportunity to practise their favorite sport, they find no incentive for exercise of any kind, and frequently break down in health for the want of it. There are scores of such men in New York to-day, and their early breakdown is not unfrequently attributed to overindulgence in college athletics. In some instances this may be true, but the fundamental weakness in the whole athletic movement at the present time is a failure to recognize the primary objects for which athletic exercises are fostered and encouraged—in other words, a failure to recognize proper standards and high ideals. In consequence of this difference of aim and motive many of us are kept busy protecting students against the excesses of some form of athletics while in college, and defending athletics against the attacks of some students after they leave college. If, therefore, we would preserve exciting games and competitive exercises as a part of our stock and trade as a means of physical development, we must be constantly on our guard to detect abuses and withstrain excesses. If, on the other hand, we would avail ourselves of the many excellent exercises which from their nature are not likely to be carried to excess, we must never weary of our efforts to arouse in our pupils an ambition and incentive to try them for the development of their own better selves. This is the vital principle back of all of our work, and if the teachers of physical training will imbibe a little enthusiasm for physical perfection, for its own sake, and put a little of the spirit of helpfulness into their daily work they need never despair of appreciation or employment, for the world is waiting for their efforts. With these ideals in view we may look in the future for the advancement of our cause with reasonable hope and joyous expectation.

THE EARLY OPERATIVE TREATMENT OF ACUTE MASTOID INFLAMMATION.

BY EDWARD B. DENCH, M.D.,

OF NEW YORK;

PROFESSOR OF OTOLOGY IN THE UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE; CONSULTING OTOLOGIST TO ST. LUKE'S HOSPITAL; CONSULTING OTOLOGIST TO THE NEW YORK ORTHOPÆDIC DISPENSARY AND HOSPITAL; ATTENDING AURAL SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY.

AN acute inflammatory process involving the mastoid may occur as a sequel of a severe cold in the head; it may follow one of the exanthemata, or it may be found as a complication of any acute infectious disease. In this later connection the recent epidemics of the grip should be mentioned

as a particular cause of this condition. It is a clinical fact that the aural complications vary decidedly with each epidemic of the grip. During the second year in which this disease was epidemic in this country, mastoid complications were exceedingly frequent. This has also been true in the epidemic of last year, and is true at the present time. It is a somewhat curious clinical fact that during the epidemic of the present year the aural involvement has been probably more severe than in any of the preceding epidemics. In almost every case of acute inflammation of the middle ear which I have seen following the grip there has been some mastoid tenderness. I do not mean by this statement that every case has required operation, but in each instance there has been decided evidence of a congestion of the mastoid very frequently passing into an acute inflammatory process.

The symptoms of mastoid involvement are so well known that they need hardly be mentioned. In the first place, the pain is apt to be severe; there is headache and sleeplessness and, in children, a considerable rise in temperature. I lay stress upon this one symptom in children because in adults temperature is of but little value in determining the presence or absence of any inflammatory process within the mastoid. In some of the most severe cases which I have observed in adults there has been no rise in temperature. While the pain is usually a prominent symptom, it may not be very severe. In adults sleeplessness is one of the most important symptoms, and in any case of middle-ear suppuration where the patient is unable to sleep, although he may not attribute this to pain, it is important to observe carefully the condition of the mastoid. The pain may be so slight that in some cases the patient is able to follow his ordinary vocation complaining simply of slight discomfort in the ear, of an aural discharge and of restlessness or discomfort at night, but of no severe and intense pain. In one case, which I saw in consultation, the patient had not been absent one day from his business, yet on examination I found a perforation through the upper portion of the membrana tympani, sinking of the upper and posterior wall of the external auditory meatus, and tenderness over the mastoid region. Further examination revealed a diffuse, brawny mass in the neck below the tip of the mastoid process. This swelling was tender upon pressure. The aural discharge in this case had been but slight, and the patient had suffered so little discomfort that he was astonished when I told him that immediate operation was necessary. He insisted upon delaying the operation, and as he lived at a considerable distance from New York he was finally operated upon by an eminent colleague in a neighboring city. Less than one week after he came into my office I learned from the family that he had died of acute meningitis, the intracranial involvement having occurred before the operative procedure was undertaken. I narrate this case simply to show the rapidity with which mastoid involvement may occur, and how insidious the advance of the disease may be. Bearing in mind the possible fatal issue in such cases, it seems advisable to urge early operative interference in all cases of acute middle-ear inflammation, and especially in those cases following the grip, or, in fact, any acute infectious disease.

The first step is the early and free incision of the membrana tympani, the incision being extended well out upon the upper and posterior wall of the canal so as to relieve any tension in the mastoid process. Such an incision is best made under general anesthesia, and nitrous oxide is the ideal anesthetic for such an operation. If after an incision of this kind, all tenderness does not subside within a few days I am in favor of opening the mastoid process.

Regarding abortive measures for the relief of inflammation of the mastoid, I can only say that, in my hands, they have proved most unsatisfactory. A few years ago it was my practice, after incising the membrana tympani, to apply either the Leiter ice-coil or the aural ice-bag for a period of from thirty-six to forty-eight hours in all cases in which there was the least evidence of mastoid involvement. Recent experience has taught me, however, that these abortive measures serve to conceal and mask the symptoms of the inflammation without actually relieving it. I think we should be very careful in all cases of this kind about employing measures to abort the inflammation. In many instances I am positive that these abortive measures have simply relieved the pain temporarily, and that the patient has passed from observation only to suffer at a later period from some severe complication of the mastoiditis. In one instance which came under my observation the patient had been treated with apparent success by means of the ice-coil. About six weeks later I operated upon him for tempero-sphenoidal abscess. Although the man ultimately made a complete recovery, I do not believe this complication would have followed had the mastoid been opened when he first came under observation. In a second case, the patient made apparently a complete recovery from an acute mastoiditis under the use of the ice-coil; all tenderness disappeared and all symptoms of mastoid involvement were absent when he left the hospital. Some weeks afterward he again came under observation, and a large epidural abscess was found in the posterior cranial fossa.

Turning now to those cases which are operated upon early, I would say that in no instance have I ever opened the mastoid process without finding considerable destruction of osseous tissue. While attempting to be most conservative in these cases I have always found that I have erred on the side of conservatism—in other words, that it would have been better had I operated at an earlier period. It has never been my experience to find a mastoid in such a condition that I would have been warranted in delaying the operative procedure.

Regarding the use of local blood-letting for

aborting the local inflammation, I believe it is absolutely contra-indicated in all cases. The local abstraction of blood from the mastoid region may temporarily diminish the pain, but I do not believe that in any case it tends to abort the inflammatory process. The symptoms are merely masked and the patient is much more liable to suffer from some serious intracranial complication than if the measure had not been employed.

We now come to the consideration of the symptoms which warrant operative interference upon the mastoid. Of these, local tenderness is, I think, the most constant symptom and the one most to be depended upon. This tenderness is usually found over the region of the antrum. Tenderness at the tip of the mastoid is not, in my experience, as signficant of an inflammation within the osseous structure as is antrum tenderness. As before stated, tip tenderness has been found, in my experience, in almost all cases of acute middle-ear inflammation during the recent grip epidemic. In a large number of these the tenderness has increased, gradually spreading over the mastoid until the antral region was reached. Many of these cases have been operated upon early, and in every instance softened bone has been found, and, in a number, extensive destruction of osseous tissue with an accumulation of pus in the mastoid cells. Some of these cases have yielded to very free incision of the membrana tympani, thus securing free drainage of the middle ear. After incision the ordinary antiseptic irrigation has been employed. The tenderness has, however, been quite slow in disappearing. I mention these facts to show that we cannot depend upon tenderness alone as indicative of mastoid involvement; other symptoms must be present in order to warrant operative interference. In any case, a narrowing of the deep meatus should be regarded as an exceedingly grave sign. If this sign is persistent, and occurs in conjunction with mastoid tenderness, the surgeon is not warranted in delaying the operation.

When we come to consider the dangers of operative interference, we find that under proper antiseptic precautions the dangers from mastoid operations are practically *nil.* It goes without saying that no surgeon should undertake this operation without making the same careful aseptic and antiseptic preparations which he would make for entering the abdominal cavity. The field of operation must be carefully shaved, the parts thoroughly cleansed by scrubbing, and an antiseptic dressing applied for a few hours before the operation whenever this is possible. The external auditory meatus must be thoroughly irrigated with a solution of bichloride of mercury, 1-3,000, and the canal occluded by means of a tampon of iodoform gauze. Both the ear and the field of operation should be completely covered by a moist antiseptic dressing, and this should not be removed until the patient is under the anesthetic. In operating upon these cases I always make it a rule to do a complete operation. I am well aware that some eminent surgeons have made the statement that complete exploration of all the mastoid cells is unnecessary, especially in the so-called influenza cases where we find early involvement of the superficial mastoid cells. Some even go so far as to advise that the antrum shall not be opened unless it is absolutely certain that it is involved. My own experience has been that it is always wise to enter the antrum in every case. A primary mastoiditis is a condition rarely found, and although the superficial cells may contain more pus than those lying deeper, the infection, I believe, must almost invariably come from the middle ear. The reason that in some instances more pus is present in the superficial cells than in the underlying ones is to be found in the varying topography of the mastoid in individual cases. I have found frequently, and especially in my recent operations, that cells very remote from the middle ear may be filled with pus although the remainder of the mastoid may be but slightly involved. For this reason I advocate the performance of a complete and thorough operation in every instance. The entire pneumatic structure of the mastoid must be investigated, the delicate walls of the cells broken down and the operation not considered complete until firm, dense bone is reached in every direction.

As the primary step of the operation, I earnestly advocate opening the antrum and establishing a free communication with the middle ear. The topography of the mastoid varies so greatly in different individuals that unless this is done it is impossible for the operator to thoroughly remove every focus of infection without running the risk of invading some important region—I refer to accidentally entering the middle cranial fossa or the unintentional opening of the lateral sinus. The possibility of such an accident renders strict attention to aseptic technic absolutely necessary. While it is usually possible for the operator to avoid the accidental opening of the lateral sinus, and while he will seldom enter the middle cranial fossa without intending to do so, such accidents may occur even to the most skilful operator. If the aseptic technic has been perfect the result of any accident of this kind will in no way influence the future progress of the case. If on the contrary, absolute cleanliness has not been observed, either accident may be followed by most serious consequences. If a large opening is made into the mastoid, the accidental wounding of the sinus is not a serious matter; the hemorrhage can be controlled with pressure applied with a pad of gauze held by the assistant, and the surgeon can proceed with the operation. If, on the other hand, a small opening is made in the mastoid, and the sinus is accidentally entered, it is impossible to finish the operation and at the same time control the hemorrhage. Again, it should be remembered that, even in cases in which there seems, on examination, to be but slight mastoid involvement, the inflammatory process may have been so extensive as to

have already invaded the lateral sinus, or to have caused a localized infection of the meninges. Under perfect surgical technic the discovery of such a condition enables the surgeon to immediately relieve the patient, while, on the other hand, if the operation is conducted carelessly, the intracranial involvement must be a very serious matter. The possibility of intracranial involvement in even the most acute cases is certainly an argument for thorough and complete operation in every instance. Another reason for making the operation extensive is that the large opening in the bone enables one to determine whether or not any intracranial inflammation is actually present. All softened bone is removed, and each area of softening is followed until firm bone is reached. If this is done, there is no possibility of the surgeon overlooking an extension of the infection to the intracranial structures. If, on the other hand, a small opening is made, and softened bone simply curetted out through this, the parts are not under immediate inspection, and an extension of the inflammation may be overlooked. I remember one case, recently operated upon, in which the patient had only been ill for about eight days, and yet a perforation had occurred through the roof of the *aditus ad antrum* into the middle cranial fossa. It was easy enough to isolate this region in the dressing of the wound and prevent any further infection. Had the mastoid operation been less extensive, however, this opening would certainly have been overlooked, and infection of the meninges might have taken place.

Bearing in mind, then, the rapid course which mastoid involvement may follow, and remembering how quickly infection of the intracranial structures may occur, I am strongly in favor of operating upon these cases very early, and in limiting all measures of abortive treatment to those cases seen in the earliest stage, and in which there is simply a fear that mastoid involvement may occur. When there is well-marked mastoid tenderness, and when there is narrowing of the meatus, I do not believe that it is wise to attempt to abort the inflammation by the local application of cold or by the local abstraction of blood. It is much better to keep the patient perfectly at rest and under observation for a day or two without the use of any abortive measures than to mask the symptoms by external applications. If at the end of twenty-four or forty-eight hours the condition is not changed, the surgeon is certainly warranted in operating upon the mastoid process. An exploratory operation in this region is certainly as justifiable as exploratory laparotomy. At the present day, the surgeon does not wait until he is absolutely certain that a case of appendicitis will not recover without operation; he does not delay until the patient is in a desperate condition, but by early operation prevents the patient's condition from becoming serious. I believe the aural surgeon should adopt exactly the same rules. If a case is doubtful he is fully justified in doing an exploratory operation. If nothing is found, no damage has been done. If this rule is observed I believe that many lives will be saved which would be lost if the abortive plan of treatment is followed.

17 West Forty-Sixth Street.

SALIENT POINTS IN AN EPIDEMIC OF TYPHOID FEVER BASED UPON FIFTY-FIVE CASES.[1]

BY WM. J. CRITTENDEN, M.D.,
OF UNIONVILLE, VA.

IN this paper I do not propose to read a compilation from authors, nor will I quote a long line of statistics. I do not know that it will be of much interest to the other practitioner of medicine, but to the younger practitioner, who is just stepping on the threshold of practice, it is most respectfully dedicated.

During the epidemic of the past year, which it was my privilege as well as my bane to treat, I observed it in the lowlands of our county, on the highest hills, which dot its surface, on the rugged hills of Culpeper, along the meanderings of the smaller streams, as well as along the windings of the beautiful Rapidan. I observed it in the infant, in the woman of sixty years of age, in the adult, and in boys and girls just entering the arena of life, but by far the greater number of cases were between the ages sixteen and twenty-four years, and the greatest mortality between the eighteenth and twenty-second years of age. The sexes were about evenly divided. The epidemic began in July, and continued until the latter part of December, but the greater number of cases occurred during the months of September and of October.

I have neither a North Boston nor a Plymouth outbreak to record, but by observation I have found typhoid fever to be both contagious and infectious, caused by contaminated water, contaminated milk, contaminated vegetables, contaminated food, contaminated apartments, mainly sleeping apartments, and I have found flies to have been frequent carriers of this disease. I have also found that the dejections after having been thrown out and dried would frequently cause the disease. In one case the bacilli were carried by the wind for half a mile or more. Carelessness and want of cleanliness on the part of physicians and nurses are frequently responsible for an outbreak.

I have practised medicine in the Piedmont section of Virginia for the past twelve years, seeing the eruption of typhoid fever but rarely. During the past year, however, it was present in almost every patient. I saw it on the chest, on the abdomen, on the back, on the limbs—in fact, all over the body, even on the face. Therefore my deduction as to the eruption is that it is not present in every case, but during the epidemic of last year it was present in nearly every case, and much more abundant in crowded tenement houses. The hair came out in about one half of

[1] Read before the Medical Society of Virginia.

my patients. In patients suffering from relapses, transverse lines or ridges may be observed running across the finger nail, the number of lines being in proportion to the number of relapses or recrudescences. In one patient recovery was much retarded because of boils, which developed during the eighth week and lasted six weeks. They aggregated the colossal number of 300 and were distributed from the crown of his head to the soles of his feet.

For a variable time, ranging from ten days to three weeks, after the reception of the poison in the system and until its outward manifestation, the patients suffered from lassitude, languor and general malaise. The tongue appearances varied from a light furring to a leathery blackness, in which latter case it would peel off and become dry and glazed. A return to a moist condition marked convalescence. Old writers paid great attention to a quartette of symptoms, namely, nose-bleeding, diarrhea, iliac tenderness and meteorism. In not a single patient did I observe all of these symptoms. Epistaxis occurred in but two patients; looseness of the bowels in about one-half of the number, iliac tenderness in about one-third, while meteorism was present in most. In one of the worst cases that I have ever seen, lasting for more than three months, and followed by post-typhoid mania, none of the typical symptoms were present. In a patient who recently came under my observation the most marked tenderness was over the sigmoid flexure.

Beginning about the middle of the third, or the latter part of the second week, in adults, earlier in children, the most dangerous symptom, intestinal hemorrhage, is to be feared. In the present epidemic it varied in quantity from a few drops to quarts of blood, and the color varied from bright red to tarry black. One patient, a young man, actually bled to death and another patient, a young woman, under the care of a neighboring physician, showed signs of an internal hemorrhage, and at her death a perfect deluge of blood poured forth.

During this epidemic a case came under my care which illustrates our inability to foresee this dangerous symptom. The patient, a young woman, had had typhoid for three weeks, at the end of which time a recrudescence occurred. For four weeks more she went through all the stages of another attack. At the end of this time she showed every sign of convalescence, when a second recrudescence took place, again lasting for four weeks. At the end of the eleventh week her temperature became permanently subnormal. In her thirteenth week she began to convalesce slowly. One significant fact was that during these attacks she would pass masses of necrotic tissue in the stools. At times in this necrotic tissue there would be specks of blood, and at other times there would be an exhaustive hemorrhage. These hemorrhages ranged in quantity from drops to quarts and in color from a bright red to tarry black.

Deep seated ulceration I saw in three cases occurring in young girls. It manifested itself by deep-seated, burning pain in the right iliac region, quick pulse, anxious expression of the countenance, and prostration. But by far the most dangerous complication which can arise is perforation of the bowel. A young man had had typhoid fever for four weeks, but was still walking about. When all at once, he was seized with a severe pain in the abdomen and in the penis; there was a quick, almost imperceptible pulse, anxious expression, pinched features, peritonitis, collapse, a temperature of 109.9° F., and death.

Swelling of the parotid gland, I have observed in one case, which was in a marked relapse. The urine in the early stages is scant, and of high specific gravity; an increase in quantity and lowering of the specific gravity marks convalescence. Bronchitis was present in nearly every patient, and was accompanied by more or less cough. This was relieved by turning the patient frequently. Hypostatic congestion of the lungs was noted in a number of cases of young plethoric boys. It was usually bilateral. Pneumonia, both lobar and lobular, was not infrequent —right here permit me to advise the young practitioner not to rely on subjective symptoms, but to make a physical examination in every case. Laryngitis was found in one patient.

The respiration is increased in frequency during the fever, and during convalescence I have seen it fall to 12 for five or six days. When pneumonia does not exist, I have found that a spasmodic or jerking inspiration is a precursor of coma.

As is well known the pulse is increased in frequency. In a case which came under my care the pulse during the second week of the disease went up to 140, and remained there for three weeks unless controlled by remedial agents. A range from 90 to 120 is common, with a mean range of 100 for many cases. Dicrotism was present in a few cases. In one during convalescence, the pulse dropped to 54 and remained at this rate for over one week. I have found the sudden collapse in typhoid fever due to a myocarditis. I observed thrombosis in two cases. One in the right leg, and one in the left leg.

Pain in the head in the early stages is more or less acute. In some patients the action of the typhoid toxins is expended on the nervous system and the pain is so severe that it resembles meningitis, but on close observation it will be found that meningitis is an exceedingly rare complication. One patient, a young man, observed in 1899 was convalescing from typhoid fever when cerebrospinal meningitis developed, which rapidly proved fatal. Some cases ran the course of the disease without delirium. The delirium amounts only to incoherent answers to questions, or simply a wandering, while with some it is uncontrollable and requires restraint in bed. In one instance a young woman became wild during the first week, the delirium and fever lasted for ten

weeks, at the end of this time both fever and wild delirium left her and she developed post-typhoid insanity from which after some weeks she recovered. Subsultus tendinum was present in a few cases. I find that picking at the bed-clothes is vastly overestimated as a bad symptom. Muscular twitching is extremely common. In one case paralysis of both lower extremities developed. This improved gradually, the anterior tibial group of muscles was the last to react. The so-called typhoid spine of Gibney I have seen in only one case, that of a young woman who has always had some menstrual irregularity.

Three stages of fever were observed, namely, increment, fastigium and decrement. Roughly speaking, the first stage lasted a week; the second, two weeks, and the third, one week. The fever would usually rise, in a step-ladder fashion, for from five to ten days, having the morning fall and the evening rise, and rising higher on each succeeding day to be followed by the stages of decrement, which declined gradually as the patient advanced. In some cases the rise occurs in the morning; there also may be an ambiguous form of fever. The rise may take place morning, noon or night; the temperature may fall to normal, and perhaps during the same day it may rise to 104.5° F. In several cases observed by me the fever seemed to be due to an anemic condition or to nervous phenomena, improvement taking place readily as soon as the patients were allowed to go to the fresh air and take exercise. Sudden falls of temperature take place as the result of hemorrhage.

Mortality.—I lost six cases, as follows: One from perforation of the bowel; one from hemorrhage from the bowels; one from cerebrospinal meningitis; one from abortion; one, a whisky drinker; one from general nervous prostration.

Treatment.—Rest, both mental and physical, is the prime requisite. The patient, as soon as suspicious symptoms declare themselves, should be put to bed in a large, cool, airy room. In the early stages the room should be kept dark, and when convalescence sets in the sunlight should be admitted. The patient should be given repeated doses of calomel until the bowels are moved well. The hair cut close, clipped, or the head shaved, the patient should be made to sleep by such hypnotics as sodium bromide, chloral, a a. gr. x, trional, gr. x, or sulphonal in hot water and in some cases hypodermics of morphine. In some few cases I have found sulphate hyoscyamine in $^1/_{100}$ grain doses to act well. The ice-cap applied to the head will often produce quiet and refreshing sleep.

Reduction of Temperature.—In the early stages, or as late as the middle of the second week, I use cold tub-baths if there is no idiosyncrasy; in the latter case, I use warm water. If the temperature remain high, later in the disease, I find nothing to act better than an ice-bag along the spine, also sponging the patient with ice. An ice-cap to the head relieves the fever, prevents delirium and produces quiet sleep. Sponging with equal parts of water and alcohol fills a good indication. Coal-tar preparations in the reduction of fever I have long since discarded, as I am satisfied that I have done great harm with them.

Antiseptic Treatment.—Of all the antiseptics which I have used internally I have found Watson's chlorine mixture to be the best.

Tonics and Stimulants.—If I were called upon to discard all drugs save one, I would unhesitatingly choose strychnine. I give it in the early stages to prevent cardiac weakness. I give it in the later stages to prevent collapse, to hold my patient up and keep him from dying, and I give it during convalescence as a general tonic and to prevent paralytic troubles. I find that the doses usually given are too small. I have given $^1/_{20}$ grain of nitrate of strychnine every three hours for twenty-one days, to a patient in great danger from cardiac failure, and whenever the dose was lessened or the time lengthened I found great weakness. Nitroglycerin is a quick stimulant to a failing heart, but not permanent like strychnine. Digitalin in $^1/_{60}$ grain doses I found of value in giving the heart rest. A young woman whose heart was beating 140 times a minute, and which kept at that rate unless held down, would be quieted by digitalin and become strong. Turpentine I still find a remedy of great utility in tympanites. In the early stages light wines act well, but later on nothing will take the place of good rye whisky or French brandy. In cases in which neither one can be borne by the stomach, recourse must be had to champagne.

Food.—From the first suspicion of fever until ten or twelve days after all fever has disappeared the diet should be liquid. Milk is one of the most important articles of diet. Care should be taken to see that it is properly digested. If not digested a mixture of acid. hydrochl. dil. and pepsin should be given. Next to milk I find albumin water or raw eggs good. The various animal broths are used with success. In some cases I have found my patients well, but each day there was some rise of fever, the tongue was clean, the abdominal tenderness gone, the appetite and digestion good. In such cases I have allowed my patients to get up and cautiously allowed them solid food, without any unpleasant effects. In connection with food is the frequent and free use of water and ice. Water should be given at regular intervals without the solicitation of the patient.

Treatment of Complications.—These should be treated as they arise, as follows: Hemorrhage, for which my sheet anchor is opium in some of its forms. Tannigen I find good. Injection of water medicated with witch hazel often seem to help. Perforation belongs to the domain of surgery.

Prof. Edmund B. Wilson, of Columbia University, delivered the annual address in Medicine at Yale University, June 25, on "The Higher Claims of Minute Search in Biology and Medicine."

A CASE OF LOBAR PNEUMONIA WITH HYPERPYREXIA; RECOVERY.

BY WM. R. WILLIAMS, M.D.,
OF NEW YORK.

THE rarity of cases of pneumonia with very high temperature at other times than just before death and the difficulty of finding reports of those that do occur perhaps excuse the publication of this note in these columns.

This patient was a well-nourished Italian, twenty-five years of age, who was in the Hudson Street Hospital under my care and later under that of Dr. Conner. He could speak no English so that his previous history remained unfathomable. He was admitted on December 7, 1900, on what was probably the second day of the pneumonia. He had been ailing for four days, but on the day before admission he had a chill and stayed in bed. Throughout the disease the tongue was rather moist and but moderately coated, the stomach behaved very well, although once he vomited after taking milk; constipation was constant. There was severe pain in the left side of the chest upon breathing and coughing, the sputum was rusty and very tenacious. The heart action was much accelerated, but of such force that under stimulation the pulse at no time became alarming. Delirium was pretty constant at night and was present to a moderate degree during the day also. It ceased altogether on the ninth day when the temperature fell.

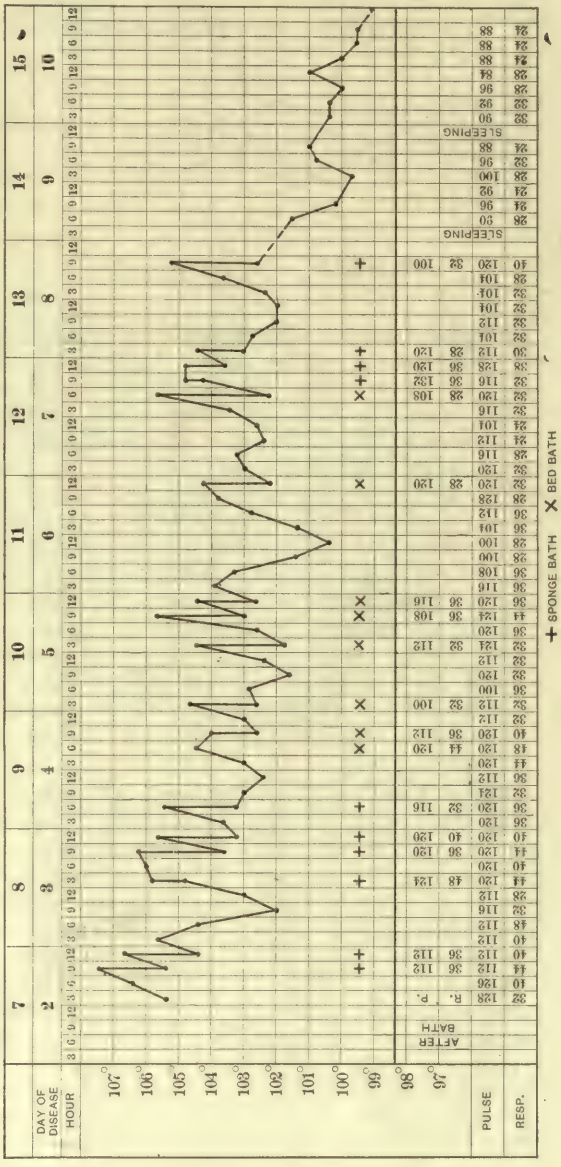
The temperature was taken in the rectum by means of a carefully tested thermometer and there seems to be no reason to doubt the accuracy of the record. The highest point was reached on the second day, 107.4° F. The accompanying chart shows clearly its subsequent meanderings and final subsidence. This chart shows also the respiratory and pulse-rates both before and after the baths.

The urine amounted to from thirty to forty ounces daily, was of a specific gravity of from 1,014 to 1,025. Upon admission it contained 20 per cent. by volume of albumin. This decreased slowly to 10 per cent. on the eighth day, and to a trace of albumin on the twelfth day. Many casts, hyaline and granular, were found during the continuance of the fever and for weeks thereafter. On the twenty-eighth day the urine was free from albumin for the first time and remained normal afterward.

The physical signs were the typical signs of consolidation and of fibrinous pleurisy over the whole of the left lower lobe. The conjunctivæ were distinctly yellowish, but the jaundice was not noticeable elsewhere. During the first two or three days the mucous membrane of lips and mouth was a little cyanotic, but after this the color was good.

From this sketch of the symptoms it will be seen that were it not for the records on the temperature chart the case would not have seemed an unusually grave one, aside from the marked urinary changes.

The treatment besides stimulation with whiskey and strychnine, and nervous sedatives for the delirium and sleeplessness (trional, codeine and morphine), consisted of some form of bathing. Because of our inability to explain to the patient the nature and object of tub-bathing, it was thought inadvisable to use this method. From the fourth to the seventh days inclusive, bed-baths were used. The temperature of the water was 50° F. The bath lasted for ten minutes.



The after-bath temperature and rates of pulse and respiration were taken half an hour after the bath. Before and after the above days the baths consisted of sponging for ten minutes with iced alcohol.

A glance at the chart will show that the temperature rose after the baths at 3 p. m. on the third day, and 9 p. m. on the seventh day, and that it was unchanged after the 6 p. m. bath on the fourth day. Yet, on the whole, the general result of bathing was quite satisfactory.

Notes of other cases of hyperpyrexia in this disease are rather rare in the literature. Fatal cases are reported with high temperatures of from 108° to 110° F. just before death.

Of cases that recovered are one with a temperature of 107° F. with double pneumonia[1]; one of 107.5° F. on the fifth day in a patient sixteen years old[2]; one of 108.4° F. in a boy of eighteen years with jaundice and a double pneumonia[3]; one of 109° F. in a child of three years[4]; one of 109.2° F. in a child of five years[5]; and one of 110° F. in a patient twenty years old just before the crisis[2].

REFERENCES.

[1] Sturgis, Pneumonia, p. 419, note.
[2] Bacon, Medical Record, quoted by Sturgis, op. cit. p. 40, note.
[3] Hawkins, Brit. Med. Journal, 1896, II., p. 1129.
[4] Brit. Med. Journal, 1896, II., p. 1212.
[5] Wagner, University Med. Mag., Vol. VI., p. 471.

152 West 57th Street.

MEDICAL PROGRESS.

Iodophilia in the Diagnosis of Suppuration and Pneumonia.—The term iodophilia is coined by T. DUNHAM (*Boston Med. and Surg. Journ.*, June 13, 1901) to designate a peculiar blood reaction which occurs in pneumonia before diagnosis can be made by physical signs, as well as in progressive suppurations. The reaction in question is a peculiar pink or red staining of polymorphonuclear neutrophiles when a dried blood smear is mounted in a syrupy mixture containing potassium iodide and iodine in solution. In so-called tuberculous abscess the reaction is absent. Other conditions in which it is present, as grave anemias and leucemia, are not likely to be confounded with suppuration or pneumonia in which two conditions the reaction is of diagnostic value.

Blister Test in Constitutional Diseases.—ROGER and JOSUÉ (*La Méd. Moderne*, May 8, 1901) report the existence of a definite relationship between the character of the cellular contents of a bulla artificially produced and a variety of infectious diseases. In normal man one finds among the cells which float in the serous contents of the blister, 25 per cent. of eosinophiles. In persons suffering from infectious maladies these cells are present in much smaller numbers or are wholly wanting. In proportion to the severity of the infection is the hematopoietic system impressed, with the result named. The blister test is shown to hold good in cases of erysipelas, mumps, acute tonsillitis, ophthalmic zona, bronchopneumonia and tuberculosis.

Lobar Localization of Hepatic Function: Its Relation to Abscess Formation.—FRANTZ-GLENARD (*La Méd. Moderne*, May 1, 1901) finds that water injected into the liver by means of the portal vein or hepatic duct does not cause a uniform swelling of the liver, but produces an enlargement and hardening of one lobe while the neighboring lobe remains flaccid. This illustrates an independence of lobar function which must be borne in mind when clinically palpating the diseased liver. Physiologically there are two separate currents within the portal vein: one current consists of blood from the superior mesenteric vein, the other of blood from the splenic and inferior mesenteric, and, while substances injected into the radicles of the superior mesenteric invariably reach the right lobe of the liver, similar injections in the territory of the inferior mesenteric find their way into the left lobe. Autopsy findings agree with these experimental findings. Abscess of the right lobe of the liver due to portal infection may always be traced to intestinal ulceration in the superior mesenteric region; if the left lobe be involved the source of infection lies in the descending colon, sigmoid or rectum.

Intrapelvic Infravaginal Perineorrhaphy.—Plastic operations that deal merely with the "perineal body" are only of cosmetic interest, the superficial muscles which are here attached being too delicate and not properly situated to give any real support to the pelvic floor. As the potential elements of the true pelvic floor of the female, namely, the levator ani muscle and its associated layers of fascia, lie within the pelvic cavity and at least 2.5 centimeters from the skin, they must be approached for proper repair from within the pelvic lumen and beneath the vaginal posterior and lateral walls. GOLDSPOHN (*Am. Jour. of Obstet.* June, 1901) accomplishes this without loss of tissue by first detaching the posterior and lateral vaginal walls for a distance of from 6 to 8 centimeters in the medium line and about half way up on the sides. The two opposing lateral portions of the deep pelvic fascia and levator ani are then by suture brought into direct contact in the medium line in front of the rectum and beneath the vagina; the flap of posterior vaginal wall now lies spontaneously adjusted into longitudinal folds upon the bridge which has been constructed for it. In Emmet's operation, with which this may be compared, there is approximation, but not actual contact of the deep lateral tissues.

Remote Results of Tuberculin Treatment.—CAILLAUD (*La Méd. Moderne*, May 28, 1901), reports the results of tuberculin treatment in five cases of pulmonary terberculosis and two cases of tuberculosis of bone. These cases were treated with the second toxin, "TR," early in 1898, and in both cases of osseous disease satisfactory results were obtained, which have persisted three years after treatment. In the pulmonary cases the report is negative. Caillaud urges the importance of trying tuberculin cautiously in cases of tubercular arthritis before resorting to mutilating operations.

Treatment of Insanity by Rest in Bed.—Russian writers have objected to the treatment on the ground that it leads to constipation and loss of weight, facilitates masturbation and makes it difficult to get patients to resume ordinary life. WIZEL, however, is a strong advocate of

the method (*Ann. Méd. Psych.*, Paris, 1901. No. 2). Many of his patients have gained in weight. Constipation has not been increased. Patients are permitted to rise for their meals and to go to the closet. Constant observation is practised, but no restraint. Separate wards are used for noisy and quiet cases. Since introducing this treatment Wizel finds his asylum quieter and more like an ordinary hospital.

The Presystolic Murmur.—HUGH WALSHAM (*Lancet*, May 18, 1901) shows by means of the Roentgen rays that the presystolic murmur of mitral stenosis is synchronous with the presystolic thrill of that disease. If the hand be placed over the precordial region at the point of the maximum intensity of the thrill, we find that the thrill corresponds to the advance of the left border of the shadow of the heart, to the left, and ends abruptly with the retreat of the shadow to the median line. Or that the thrill is obviously presystolic in rhythm and ends with systole. If, at the same time, the stethoscope is placed upon the heart, it will be found that the murmur begins at the moment when the shadow of the left ventricle is advancing to the left—that is, during auricular systole—and ends abruptly when the shadow retreats toward the medium line, that is, with ventricular systole.

Flies and the Science of Scavenging.—G. V. POORE (*Lancet*, May 18, 1901), advises that every means should be taken to dispose of human and horse excreta, as it is in these materials that the female fly lays her eggs. The best method is to bury the excreta in long shallow furrows, rather than in deep trenches, which take too long a time to dig and thus necessarily increase the cost of the work. The author is convinced that enteric fever is caused by the carrying of the germ from the excreta to the human subjects by flies. Cow dung should be stacked in piles and then covered with earth, so that the female fly cannot deposit her eggs in it. As each fly lays about 120 eggs at a time it is reasonable to suppose that in a hot summer she will breed in all, over 25,000,000 descendants.

Sterilizing Soft Catheters.—H. T. HERRING (*Brit. Med. Jour.*, May 25, 1901), describes a new and original method of sterilizing soft catheters. A series of metal tubes are connected with a flask which has been filled with paraffin and water. On heating the contents of the flask the steam and paraffin pass up into the tubes containing the catheters and coat them with paraffin. Bacteriologic examinations show that this method is highly efficacious. These tubes are plugged with sterilized corks and are ready for use when needed. It takes about twenty minutes to sterilize a dozen catheters.

Erythema Multiforme and Vaccination.—NORMAN WALKER (*Brit. Med. Jour.*, May 18, 1901), says that many cases of vaccinations are followed by an erythema even after four weeks, in which it is difficult to distinguish it from erythema iris or erythema multiforme. The hands, face and legs are covered with a bullous eruption in some cases. All these cases, which came under the author's observation, have been vaccinated with glycerinated lymph, which makes the writer wonder if the erythema may be due to some toxic substance introduced with the vaccinia virus. Gilchrist of Baltimore thinks this is the best explanation. The course of the erythema was uneventful and the eruption very rapidly disappeared.

Malignant Diseases.—After carefully analyzing 5,000 cases of death from malignant diseases, E. N. NASON (*Brit. Med. Jour.*, May 18, 1901), says that all predisposing causes resolve themselves into conditions in which the resisting powers of the individual have in all probability been reduced or destroyed. When this condition exists it is the time for the invasion of the parasitic organisms, if there be such organisms. Granting the existence of such germs, they must enter the points of inoculation by direct absorption, by the intestinal tract, by way of the respiratory tract or by direct inoculation through skin abrasions, or by bites of blood-sucking insects.

The Nasopharyngeal Origin of Goiter.—From the study of 209 cases of goiter, H. DU FOUGERAY (*Le Progrès Médical*, May 25, 1901) believes that chronic catarrh of the nasopharynx is probably one of the causative factors of goiter. By proper treatment of this region, the goiter disappeared in 52 cases, diminished notably in 133, and was only slightly affected in 24. One of the cases presented exophthalmos, but a slow pulse and no definite sign of Grave's disease; and both exophthalmos and goiter yielded to intranasal treatment. In two cases of true exophthalmic goiter, great benefit was obtained, but the results are too recent to be conclusive. It is a fact that rhinopharyngitis is the rule among goitrous patients, and lately it has been shown that the thyroid and pharyngeal veins anastomose and have but few valves, so it may be possible that a congestion of the pharynx may be such as to relieve itself on the thyroid system, and so produce there a hyperemia, and then a goiter. The author's routine treatment has been to paint the oropharynx three times a day with 10 per cent. mentholated oil, to spray the nose with the same oil five or six times a day, and to cauterize the affected parts of the nasopharynx with a 50 per cent. solution of chromic acid.

Vaginal Hysterectomy.— A. DÖDERLEIN (*Archiv f. Gynäkol.*, B. 63, H. 2 and 3) describes a new modification of this operation which consists of the following steps. After the insertion of two lateral and one posterior vaginal retractor the cervix is seized by two strong volcella at its right and left margins, drawn strongly down and divulsed. With scissors in the median line posteriorly the posterior lip of the cervix and the vaginal wall are divided into the cul-de-sac of Douglas. When this is divided in the median line behind. The cervix is

reached, extrapertioneally the uterine body is meanwhile drawn steadily forward and the lips of the uterine wound farther and farther apart. When finally the fundus is reached and cut through the organ lies outside the vulva and opened up somewhat like a fan. The anterior uterine, cervical and vaginal walls are now divided *seriatim* until the base of the bladder is reached. The halves of the organ are now stripped of peritoneum and the attachments still left within the pelvis are tied and cut through. The wound is then closed by some of the well-known steps.

Myomectomy During Pregnancy; Delivery at Term.—Myomata of the pregnant uterus are divisible into three classes: (*a*) Pedunculated myomata not apt to interfere with pregnancy or delivery and not calling for surgical interference; (*b*) subperitoneal and interstitial tumors of the body, removal of which is liable to be followed by abortion; (*c*) sessile or pedunculated tumors which are so situated that interference with delivery is inevitable. The advocacy of hysterectomy when surgical interference is called for is considered by J. D. EMMET (*Am. Gyn. and Obstet. Journ.*, June, 1901) to be founded on the erroneous belief that myomectomy is nearly always followed by abortion. The author removed in one case nine sessile myomata, one of which was deeply interstitial. Pregnancy continued uneventfully to term.

Cancer of the Lower Lip.—A. STIEDA (*Archiv f. klin Chir.*, B. 63, H. 3) states that all operations for cancer must involve not only a removal of the cancer itself, but also of the efferent lymph-channels and glands. The area which these cover is roughly bounded on each side by the body of the lower jaw and behind by the hyoid bone and in front by the symphysis. The incision which exposes this large field begins practically at the angle of the lower jaw, follows the body forward to the symphysis and then curves backward along the body on the other side till the angle there is reached. The large horseshoe-shaped flap thus made is folded backward along its base and the two submaxillary triangles and the submental space are freely exposed for cleaning out.

Treatment of Chorea Gravidarum.—Physical and mental calm are regarded by OUI (*Jour. de Méd. de Paris*, June 16, 1901) as of primary importance. If necessary the patient should be kept in bed. Although Vinay counsels the use of large doses of antipyrin, its action on the kidneys contra-indicates its use in pregnant women in whom renal integrity is indispensable. Bromide of potassium, zinc oxide and valerian have given very variable results. Chloral is highly recommended, its administration being conducted by Oui according to the rule of Pinard, who prescribes sufficient doses to keep the patient asleep almost continually, arousing her only for meals.

Skiagraphy in Surgery.—J. RUDIS-JICINSKY (*Annals of Surgery*, 1901, No. 6) states that as the technic of making skiagraphs improves, the value of its resources in surgery is increased, the fields of its usefulness and application widen and its errors and false interpretations become less numerous. The Roentgen-ray may be used with increasing safety and accuracy. It reveals in proper hands more than examination under ether, without the danger and discomforts of an anesthetization. It often does away with the necessity of any manipulation whatever. The duration of the exposure is usually a matter of experiment and experience. After five negative skiagraphs made by an exposure of several minutes, he succeeded in demonstrating the gallstones sought by making the exposure only fifty seconds. A change of view-point is also desirable when the picture resulting is not favorable. A series of views must also often be had from various points in order to give all the necessary information. After a little experience, the shadows will show not only the position of bones, but also their pathological condition. The author then cites examples of old dislocation of the hip, diagnosed as coxalgia, of old blood-clot under the parietal bone without definite clinical diagnosis and of early spondylitis, all made definitely correct by the use of the X-ray.

Value of Calcium Carbide in Inoperable Uterine Carcinoma.—It is believed by I. C. CHASE (*Jour. Am. Med. Assoc.*, June 22, 1901) that many inaccurate statements have found their way into recent literature on the subject of calcium carbide. In contact with water this substance is violently disintegrated, liberating acetylene according to the formula $CaC_2+H_2O=CaO+C_2H_2$. Chase finds that acetylene has no specific annihilative action on carcinomatous cells; it has no escharotic effect and no bactericidal action on pathogenic bacteria or bacteria of putrefaction. The principal action of calcium carbide is due to the quicklime liberated. But if a caustic is desired lime is not a rational selection, because of its superficial action, the character of the necrosis and the tendency to promote hemorrhage. The amount of heat evolved may be sufficient to slighty cauterize the tissues; the heat of actual cautery, however, gives firmer cicatrices with better resistance to carcinomatous invasion.

A Modified Murphy Button.—E. P. PAYR (*Deutsche Zeitschr. f. Chir.*, B., 59, H. 3 and 4) in a contribution on the technic of various abdominal operations describes a feature of a Murphy button which is briefly a great elongation of the male tube. The advantages of this tube in operations which permit it to be used are that it forms a drain and irrigation channel and a protection to the outer dressings. The operations for which it is best adapted are resections of the rectum and colostomies. In the resection of the rectum the proximal stump of sigmoid colon is attached to the male segment and the anal portion to the female. When the two are united the long tube projects outward in the axis of the bowel and beyond the level of the perineal plane. Suitable drains and dressing are applied around it

and ordinarily remain perfectly clear of fecal matter. The same purpose is carried out more fully by attaching a rubber hose over the end of the tube which can be carried into a receptacle containing an antiseptic, beneath the bed. If the feces are kept fluid by small amounts of saline purgatives, they will drain away steadily. Gentle irrigations may be practised through this tube-system also. In the colostomies, especially the inguinal, whether lateral or after transverse division of the bowel; the male part is put into the bowel and the female placed upon it with only the transversalis fascia and peritoneum between.

Pseudo-Myxedema Due to Testicular Distrophy.—A man, thirty-six years of age, who gave a syphilitic history, and who during five years experienced lassitude, weakness of the lower extremities, mental dulness and sexual impotence was examined by DALCHÉ *(La Semaine Méd.,* June 12, 1901). The legs, abdomen and face were the seat of a hard infiltration resembling myxedema. The thyroid was of normal size; the testicles were markedly atrophied. There was a total loss of vision in the left eye, due to choroiditis. Mercury and iodide of potassium gave no relief. Testicular extract was then resorted to and in a few days the subcutaneous infiltration disappeared and the patient's mental and sexual potency returned.

Surgery for Typhoid Fever.—T. J. MACLAGAN (*Brit. Med. Jour.,* June 15, 1901) says that there are a certain series of typhoid-fever patients in whom during the third and fourth week of the disease the intestinal ulcers begin to cast off their sloughs. These are usually small and pass into the cecum and along the large intestines and are voided without difficulty. Occasionally, however, the sloughs are individually large or through weakness in the bowel-wall collect in masses which are retained in the cecum. Here as the decomposition goes on it leads to toxemia by absorption and to a low grade of obstruction by its mass and the increased paresis of the gut-wall incident upon the accumulation of the gases produced. When such a condition is not alleviated by medical means the author commends resort to surgical emptying of the loaded cecum. His contention, although not based on actual experience, points to the probability that this will be, like intestinal perforation in typhoid fever, a fixed indication for surgical treatment, and interference in properly selected cases at the fitting time will prove another fertile means of saving life.

Nauheim Baths.—The value of the Nauheim treatment, especially in cardiac troubles, is discussed by H. N. HEINEMAN *(Med. Rec.,* June 22, 1901) who believes that in selected cases much benefit can be given. The important elements in the treatment are as follows: The warmth and the fact that it is a natural warmth, avoiding any injurious artificial application of heat by which important elements may be dissipated; the presence of alkaline salts and metals and also rarer elements the value of which is unknown; the large quantity of carbolic-acid gas held in active form; and, finally, a certain quantity of electromagnetism which these waters have in common with certain other springs. When patients with weak hearts are placed in a bath at 33.5° C. to 35 C. they first experience a feeling of oppression over the sternum, never alarming, and this is usually followed by a slowing of the pulse and respirations after the first hurried respirations have subsided. At the beginning the baths are kept up only four to six minutes, the time being increased in some cases to twenty minutes. To obtain the best results the Schott methods of exercise should be combined with the baths and this is now usually done at Nauheim. In addition, various cardiac disorders, such as myocarditis and fatty heart, and all forms of loss of compensation, numerous other chronic disturbances, such as nervous troubles, rheumatism, gout and inflammatory exudates, may be remarkably improved by this method of treatment.

Symmetrical Lipomata.—FÈRÉ and M. FRANCILLON (*Revue de Chirurgie,* 1901, No. 61) state that symmetrically occurring fatty tumors are equally common in people free from pathological taint, as in those afflicted with arthritis, albuminuria, alcoholism, rheumatism and cancer. They are comparatively rare in the nervous diseases, but have been reported in the insane, epileptic, tabetic, sciatic, general paralytic and other classes of the nervously afflicted. As to the pathogenesis of these fatty masses in multiple and symmetrical occurrence we are unfortunately ignorant, although a number of theories are extant, each having its advocates and its cases to support it. The chief theories recognize a lipomatous diathesis, or a vascular hyperplasia with a formation of new tissue, especially fat, or some connection between thyroid hyper- or subactivity, or a connection with lymphatic-gland or vessel changes, or, finally nervous trophic influences.

"Fourth Disease."—J. J. WEAVER *(Dublin Med. Sc.,* June, 1901), reports a series of cases of an affection which has been provisionally called "fourth disease," because of its clinical resemblance to, but distinctness from measles, scarlet fever and German measles. The closest resemblance is with German measles, the principal point of distinction being the rash. While the rash of German measles is always patchy at some stage, that of "fourth disease" is uniform, finely punctate, and practically indistinguishable from scarlet fever. The rash of "fourth disease" appears first around the mouth; the temperature rarely exceeds 100° F. and the pulse is not much slight or absent, there is little feeling of accelerated; moreover, the throat symptoms are illness and no loss of appetite. As in German measles, the incubation period in "fourth disease" is from nine to twenty-one days; in both affections the eruption is the first symptom. Posterior cervical glandular enlargement is absent in "fourth disease," desquamation is rare, and sneezing, coryza and cough do not occur.

Abolition of the Pupillary Reflex and its Re-

lation to Syphilis.—The permanent abolition of the pupillary reaction to light, provided it is not associated with a lesion of the globe of the optic nerve or of the third cranial nerve, is almost pathognomonic of hereditary or acquired syphilis. BABINSKI and CHARPENTIER (*La Méd. Moderne,* May 21, 1901) have made numerous observations in confirmation of this view. A patient in whom this pupillary sign appears is a candidate for tabes dorsalis, meningo-encephalitis or syphilitic affection of the brain or cord. As the sign may be unaccompanied by any symptom, it should be systematically sought for, and where it exists specific treatment should be begun at once.

THERAPEUTIC HINTS.

Infant Feeding.—The rapid cooling of milk with proper aeration, following strict cleanliness in its production, are the essentials for pure milk. Such milk sent from this country to the Paris Exposition was sold there as fresh milk. Chemical preservatives and sterilization are harmful, but heating to 170° F. will destroy most of the bacteria without hurting the milk. At 50°-60° F., nine-tenths of the butter-fat rises to the top of a bottle of milk in twelve to twenty-four hours, so that the upper nine ounces of a quart bottle will contain all the cream, and the percentage of fat to proteids will be three to one. This is about the proportion in human milk, so it is only necessary to dilute this and add sugar to approximate the proportions in human milk. A milk containing about 4 per cent. of fat will give in the first nine ounces 12 per cent. of fat, 4 per cent. of sugar and 4 per cent. of proteids. This, diluted three times, gives fat 4 and proteids 1, and by the addition of one part of sugar to each twenty of the dilution, makes the sugar 6, about the composition of human milk. A milk containing 3 per cent. of fat yields in its upper nine ounces, 9 of fat and 3 of proteid, while a 5 per cent. milk gives 15 fat and about 4½ proteid. The proteid of cow's milk, however, makes hard coagula, not easily penetrated by the digestive fluids, while the curd of woman's milk is soft. But cereal decoctions have been found to make the curd of cow's milk soft, so the author uses for dilution a dextrinized wheat, barley, or oatmeal gruel. He dextrinizes it by adding diastase or a malt extract made by soaking a tablespoonful of malt barley grains over night in two tablespoonfuls of water in a refrigerator.—H. D. CHAPIN (*American Journal of Obstetrics,* May, 1901).

Puerperal Sepsis.—Thorough disinfection of the whole genital canal should invariably precede other treatment. HIRST administers a 1-2,000 bichloride intra-uterine douche, then goes over the whole uterine surface with the curette and placental forceps, and then gives another intra-uterine douche. If the womb is flabby and large so that drainage is poor, he packs with iodoform gauze. Any local areas of inflammation in the vagina should be touched with silver nitrate, 10 per cent. If the symptoms continue, douches of plain water should be given several times a day. The patient must be given as much easily digestible food, chiefly milk, as she can assimilate, and much alcohol. Digitalis, if the pulse is above 110, and strychnine, or, in emergency, ammonium carbonate by the bowel, or nitroglycerin by hypodermic, may be required. Inhalations of oxygen may be useful. Absolute rest and freedom from mental and physical disturbances must be insisted upon. For two years the author has used nuclein as a routine part of his treatment to promote hyperleucocytosis. Recently hypodermatoclysis and saline injections have given good results; the best fluid for this purpose is calcium chloride, gm. 0.1 (gr. iss), potassium chloride, gm. 0.75 (gr. xiss), and normal salt solution, 1,000 c.c. (34 oz.). The infection may be so severe as to demand laparotomy with removal of uterus, tubes, or intraperitoneal abscesses.—B. C. HIRST in "Text-Book of Obstetrics."

Pneumothorax.—If intensely severe symptoms attend the perforation, a hypodermic of morphine should be given immediately. It relieves the mental distress, checks cough, and lessens the dyspnea. If there are marked signs of shock, and cardiac failure threatens, ether should be injected hypodermically at intervals. The movements of the affected side may be restrained, and overdistention prevented by broad adhesive straps extending beyond the median line both before and behind. The engorgement of the right side of the heart requires its own special treatment. It sometimes happens that severe dyspnea disappears spontaneously on the occurrence of pneumothorax. When a valvular opening in the lung allows the pleural cavity to so fill with air that the lung is compressed. A cannula should be inserted in an intercostal space and left till the lung is healed. Cases of tubercular pyopneumothorax do badly after free incision. A good treatment for these cases is to place patient on the back at the edge of the bed, and to insert two hollow needles with rubber tubes attached, one in the anterior chest and the other in the posterior. The anterior tube comes from a large bottle of warm boric-acid solution prepared with sterile water, and the other tube is connected with an aspirator or drains into a basin on the floor. The fluid runs from the chest and is replaced by the boric solution. When the stream runs quite clear, the anterior needle is withdrawn, and as much as possible of the remaining fluid removed. If the accumulation of air causes trouble, it may be removed in the same way as fluid, by aspiration. Ordinary pyopneumothorax requires the same treatment as empyema.—FOWLER AND GODLEE in "Diseases of the Lungs."

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SATURDAY, JULY 6, 1901.

PARASITES FROM THE PHILIPPINES.

SINCE acquiring the Philippines we have been realizing by degrees something of the heterogeneous nature of our new possessions. With our tendency to "want the earth, and get as much as we can hold," we discover, as did Mrs. Stetson's Neolithic man, that

"We're going to have diseases and accomplishments and sins."

A circular on Tropical Diseases coming from the printing office of the Chief Surgeon of the Headquarters Division of the Philippines lies before us. It is one of a series prepared to place in the hands of physicians when they arrive in these islands in order to enable those who have had no experience with the diseases of the tropics to aid in the diagnosis of the common maladies as well as to prevent their epidemic spread.

This first issue is replete with parasites, those of the animal kingdom alone being described. Certainly the struggle for existence must be keen in the Philippines if so many parasites are found as are here described. Amœba dysenteriæ, amœba coli, balantidium coli, three flagellate infusoria, undetermined, tænia solium, tænia saginata, tænia echinococcus, ascaris lumbricoides, oxyuris vermicularis, trichocephalus dispar, trichina spiralis, filaria sanguinis hominis, anchylostoma duodenale, strongyloides intestinalis, calliphora vomitoria, anthomyia canicularis, hirudo and paragonimus Westermanii are among those enumerated in this preliminary report.

To realize that these parasites are extremely common and very liable to infect foreign soldiers, especially if they fall into the careless and slovenly habits so readily acquired in the tropics, is a matter of the greatest importance to the physicians of the army. Familiarity with the diseases they will certainly acquire by disastrous experience if they are not forewarned, and more than one tropical malady will come to the United States if we are not forearmed; but the dissemination of such circulars as these promise to be, will prove most efficacious in diagnosing the diseases and prevent them from spreading.

THE SURGICAL TREATMENT OF AMEBIC COLITIS.

FEW, if any, diseases are more obstinate in their resistance to treatment which is at times apparently curative than amebic dysentery. In the early stages, before the amebæ have secured a firm foothold in the deeper layers of the intestine, and before extensive ulceration has occurred, irrigations may both arrest their growth and lead to permanent recovery. On the other hand, improvement or apparent cure is often only temporary, and repeated and protracted treatment may fail to produce any lasting effect. There is good reason to suppose that if, in these unyielding cases, the intestine could be kept absolutely at rest, free from all irritation, stimulating, antiseptic, and astringent irrigations would be far more effectual. This principle has been applied in the treatment of other inflammatory and ulcerative processes in the large intestine, but apparently has only recently been employed in amebic colitis.

Murray (*Annals of Surgery*, May, 1901) obtained a partial success in a most obstinate case by the formation of an incomplete artificial anus. The partial rest secured to the colon by this procedure, with irrigation from the colostomy opening downward with various solutions, of which silver nitrate seemed most efficient, caused marked improvement. Before the operation the effect of irrigation had been extremely transitory. While under observation after the colostomy the amebæ appeared at times in small numbers, but recovery was

sufficient to allow the patient to work for the first time in over two years. Six months later he was found still able to work, with the colostomy wound nearly healed, and the movements numbering two or three a day but always containing mucus. The writer acknowledges the incompleteness of the method employed and advocates for the treatment in future of chronic cases of amebic colitis, the formation of a complete artificial anus followed by irrigation. He considers as suitable cases for this procedure those which fail to yield to medical treatment within four months.

Judging by the results obtained with other forms of ulceration and by the partial cure following the incomplete operation in Murray's case, it seems not unreasonable to suppose that even such an intractable affection as amebic colitis may yield to a complete colostomy. The artificial anus should be left open until, as the writer suggests, no amebæ are found in the irrigating fluid, and examination of the lower portion of the bowel through the anus and the ascending colon through the colostomy wound, by means of Kelly's long rectal speculum, fails to disclose the presence of ulcers. In view of the progressive character of the disease, leading to a fatal result, it appears perfectly justifiable to expose the patient to the danger incurred by the operation. The number of cases of amebic colitis in this country is likely to increase with the acquisition of colonies where it is prevalent, and the importance of what bids fair to lead to a cure will correspondingly advance.

HYPODERMOCLYSIS IN THE TREATMENT OF PNEUMONIA.

NEARLY nine years ago the MEDICAL NEWS published an editorial article by the present writer upon the treatment of pneumonia, embodying what seemed to be the most advanced position of that day (August 20, 1892). In that article which strongly urged the discriminating use of venesection and the timely use of oxygen is likewise to be found the following: "Subcutaneous infusion (hypodermatoclysis) of saline solutions, as practised by Dr. F. P. Henry of Philadelphia, is unquestionably useful, probably by helping to maintain the fluidity of the blood in the same manner as the internal administration of ammonium salts, and by washing out noxious matters."

As the question of priority in this method of treatment has recently been agitating some medical writers and medical journals, it may be well to give it further consideration. As our statement above quoted shows, Dr. F. P. Henry of Philadelphia had for some years previous to that time treated cases of acute lobar pneumonia by using, among other measures, subcutaneous infusion of physiologic salt solution, and the method was presumably so well known to all readers that it was not considered necessary at that late day to call attention to its novelty or to describe the process.

As a matter of historic fact Dr. Henry's first case was treated at the Philadelphia Hospital in the year 1889. His first publication on the subject is contained in a footnote in Hare's System of Practical Therapeutics, first edition, 1892, volume 2, page 290, in the course of a chapter on typhoid fever which he contributed to that work. He says, "The surest method of conveying water to the tissues is by subcutaneous injection of (deci-) normal saline solution—a solution of common salt of the strength of fifty grains to a pint. About three years ago a number of cases of pneumonia at the Philadelphia Hospital were treated by the writer in this manner and with excellent results, both as regards palliation and cure." This and our own reference certainly constitute sufficient publication, even if nothing further had been said upon the subject from that day to this to establish Dr. Henry beyond doubt as the originator of the method, and to render it incumbent upon any further worker in the field to refer to Dr. Henry's observations.

However, there have been additional publications made. At the meeting of the Association of American Physicians in 1894, Dr. Beverley Robinson of New York read a paper on "The Treatment of Pneumonia," in the course of which he said, "In a late number of the *Virginia Medical Monthly*, Dr. Cunningham of Ensley, Alabama, contributed a very valuable paper in which he writes that he employed hypodermoclysis of saline solution daily in just such cases, with the object of preventing cardiac failure which, he thinks, may be due to antemortem clot." In the discussion of Dr. Robinson's paper, Dr. James C. Wilson of Philadelphia remarked, "In regard to the intravenous or hypodermatic administration of large quantities of sterilized salt solution, alluded to by Dr. Robinson, I would like to call the attention of the Association to the fact that this method has been practised to a consider-

able extent in the wards of the Philadelphia Hospital by Dr. Henry, and in cases of this kind, with very satisfactory results." This brings Dr. Cunningham into the field as another worker in the same line, apparently independent of Dr. Henry, and certainly with priority over any one subsequent to Dr. Henry.

In the *Philadelphia Polyclinic* for July 20, 1898, the present writer, in the course of a signed editorial on "The Uses of Physiologic Salt Solution, or Artificial Serum," says, "A perusal of current literature will show how much the use of physiologic salt solution is extending. It is introduced in urgent cases by intravenous injection, in less urgent cases by subcutaneous infusion or hypodermoclysis. In toxemias, in which class of cases, for example, delirium tremens and pneumonia both find place, preliminary or coincident venesection may usefully be made. We have seen recovery take place in doubtful cases under this form of treatment. In some cases the injection, after a preliminary irrigation, of a pint or a quart of warm saline solution into the colon, by means of a large rubber tube carried as high into the bowel as possible, has seemed to serve a good purpose in cases of deficient excretion of urine; and in pneumonia and uremia to keep up the good effect previously obtained by hypodermoclysis." Here the allusion is to the use of physiologic salt solution in pneumonia as a well-known practice, and the original contribution, if any, is regarding the coincident use of venesection.

In the article in the *Philadelphia Polyclinic* for October 15, 1898, on "Therapeutic Saline Solutions and Their Uses," the following occurs: "I have used both venous infusion and subcutaneous infusion with great satisfaction and much success in uremic conditions, including actual coma. In such cases it is well to precede or accompany the introduction of saline solution by bloodletting. The same remarks will apply to the coma of delirium tremens, as exemplified in a case recently under my care at the hospital, and which Dr. Torrance, our efficient and skilful resident, published in a recent number of the *Philadelphia Polyclinic*. In a severe case of measles in an adult seen last spring in consultation with Dr. M. Staller of this city, and in which acute nephritis with hematuria and a massive catarrhal pneumonia were the complications, wet cupping over the kidneys, followed by hypodermoclysis with therapeutic saline solution (sodium chloride, 0.75 per cent.) seemed to be largely responsible for the patient's recovery. The hypodermoclysis was repeated several times at intervals of twenty-four to forty-eight hours. In a case of pneumonia in an elderly patient with diabetes hypodermoclysis with therapeutic saline solution (sodium chloride, 40 grains, sodium carbonate, 20 grains, to the pint of sterilized water) restored the interrupted flow of urine, and averted the coma that seemed threatened by the semi-stuporous condition of the patient. In this case, after the acute danger had passed, a quart of saline solution was thrown high into the colon, daily. Much of this was retained and it seemed to have a good influence upon the kidneys." All these publications were made prior to the very excellent paper of Dr. Clement A. Penrose on "Infusion of Salt Solution Combined with a Special Method for the Administration of Oxygen Inhalations as a Treatment in Pneumonia," in the *Johns Hopkins Hospital Bulletin*, No. 100, July, 1899, reporting his first case treated February 14, 1898.

The most complete publication, however, upon the subject of this article, was printed in the *International Clinics* (Vol. 4, 9th series, 1900), by Dr. Henry, in which he reports twelve cases treated in 1889 and in 1899, in ten of which recovery took place, two terminating fatally. In this communication reference is made to Dr. Cunningham's paper and to that of Dr. Beverley Robinson, the latter of whom suggests the employment of hypodermoclysis after bleeding, as to which specifically combined procedure, therefore, he preceded the writer in publication, though not in practice. Dr. Henry, himself, advances no claim to priority, although he seems to have been the first to employ the method systematically. It is a good method and should be resorted to with far greater frequency than is the ordinary custom. As we said of the use of oxygen in our editorial of 1892, so may we say of hypodermoclysis, that to get the best results it should be used in time, and that it is foolish to wait until the patient is dead, expecting then to bring him to life either with salt or with oxygen.

It is to be hoped that the discussion as to priority if it have no other effect, will strongly direct professional attention to the great usefulness of the method, and thus indirectly lead to the saving of many a life.

ECHOES AND NEWS.

NEW YORK.

Physicians for the Tenements.—At a recent meeting of the Board of Health of New York City it was decided to have the summer staff of physicians of the Board pay visits to the tenements during the summer and alleviate all cases of sickness among the poor. The visits will commence on July 8th. The Board will refer all appropriate cases to the summer staff for treatment.

Floating Hospital Service.—The floating hospitals of St. John's Guild will start their summer's service for the children of the poor on Monday, July 8th, and thereafter the two hospitals will make trips every day except Sunday, one running on the North River and one on the East River.

Ravages of Heat in New York City.—The heat for the past week has been excessive and as usual under these conditions has caused much suffering and numerous deaths. During the first four days of the present week the deaths directly attributable to excessive heat in Greater New York exceeded 250 and the number of prostrations reported reached 400. It is safe to say that many cases of heat exhaustion were cared for privately and are not included in this number.

New Tenement Law.—The Department of Health has now taken notice of the several clauses of the Tenement-House act, which has become a law. It has sent out the circulars embodying the text of the law, most of which has been in force for considerable time past. This circular, addressed to the owner, lessee, or agent of the house, contains the portions of this law which are new, as follows:

"A tenement house shall be subject to a penalty of $1,000 if it or any part of it shall be used for the purpose of a house of prostitution or assignation of any description, with the permission of the owner thereof or his agent, and said penalty shall be a lien upon the house and the lot upon which the house is situated. A woman who resides in or commits prostitution in a house of prostitution or assignation of any description in a tenement house, or solicits any man or boy to enter for such purpose a tenement house, shall be deemed a vagrant, and upon conviction, shall be committed to a county jail for a term not exceeding six months. If a tenement house is used for purpose of prostitution or assignation or any part thereof, with the permission of the lessee or his agent, the lease shall be terminable at the election of the lessor. A tenement house shall be deemed to have been used with the permission of the owner and lessee if summary proceedings for the removal of the tenants of so much thereof as is unlawfully used shall not have been commenced within five days after notice of such unlawful use served by the Department of Health. Whenever the liens upon a tenement house shall amount to $1,000 or over, the Department of Health shall appoint a receiver of the rents and profits of said property."

Until the new Tenement-House Commissioner is appointed the responsibility so far as the Board of Health is concerned for the Borough of Manhattan will rest principally upon the shoulders of Dr. Frederick H. Dillingham, Assistant Sanitary Inspector.

PHILADELPHIA.

Prostrations from Heat.—The excessive heat of the last days of June has been responsible for many prostrations and several deaths. There were 8 deaths directly attributable to the heat on June 29th and at least 4 on June 30th. Hospitals having yard facilities for heat tents are treating the greater number of cases, but the others are receiving many cases daily.

St. Joseph's Hospital.—Dr. J. Chalmers Da Costa has resigned as surgeon. The vacancy has been filled by the appointment of Dr. Charles F. Nassau.

Philadelphia Hospital.—The appointment of 24 resident physicians for the year beginning July 1st has been made. The Woman's Medical College of this city numbers two of its graduates among this number.

Death of Pennsylvania's Oldest Practitioner.—Dr. J. Augustus Ehler died at his home in Lancaster June 29th at the age of eighty-seven years. He was supposedly the oldest practising physician in the State and had been in active practice for sixty years. He was one of the founders of the Lancaster City and County Medical Society and of the Pennsylvania State Medical Society.

Site for Almshouse.—The special committee of inspection, after making a tour of the islands of the Delaware River, has decided that Petty's Island, opposite the northern section of the city, offers the best advantages as a site for the new buildings. The island, however, belongs to New Jersey and its concession is necessary before operations are begun.

Eosinophilia in Trichinosis.—At the Pathological Society, June 27th, Dr. R. C. Rosenberger read a report of the pathological findings in a case of trichinosis in St. Joseph's Hospital under the care of Dr. J. Chalmers Da Costa. The only part of the body affected was the right leg and thigh. Encapsulated trichinæ were found in the muscles, many of the capsules being surrounded by accumulations of lymphoid cells. Four blood-counts showed eosinophiles, varying from 2.5 to 4 per cent. The conclusion reached was that eosinophilia was not pathognomonic of trichinosis. An extended review of the literature showed that marked eosinophilia was met with at times in numerous other diseases. In discussing the paper Dr. W. M. L. Coplin suggested the prob-

ability of a recrudescence of lesions in the case. This would be borne out by the lymphoid cells found around the older capsules, the absence of eosinophilia which is commonly marked in initial outbreaks of trichinosis, and by the history of injury which sets up activity in encapsulated parasites of other forms.

Medico-Chirurgical Hospital.—Medical circles are much interested in the attack made by the *Times* on the Medico-Chirurgical Hospital during the past week. In commenting on the large appropriation, $190,000, received by the hospital from the State, if the Governor signs the bill, comparison was made between the proportion of free patients treated by that and other hospitals. Statistics quoted show that 54 per cent. of its patients during 1900 were free. Compared with this the Pennsylvania maintained nearly 96 per cent. and the Episcopal 94 per cent. of their patients free. Neither of these hospitals receives State aid.

CHICAGO.

Resignation of Dr. Robison.—Dr. John A. Robison has resigned the Assistant Professorship in Medicine in Rush Medical College.

Officers of the Chicago Society of Internal Medicine.—At the annual meeting, held June 27th, the following officers were elected for the ensuing year: President, Dr. Edward F. Wells; Vice-President, Dr. George W. Webster; Secretary, Dr. Robert B. Preble; Treasurer, Dr. M. L. Goodkind; Censor, Dr. John M. Dodson.

Reform at the Cook County Hospital.—Some of the new rules now being enforced at the Cook County Hospital are as follows: No person suffering from delirium tremens will be admitted to the institution. Heretofore, owing to lack of other accommodations, these victims of drink have been placed in wards occupied by patients suffering from fever and other serious ailments, to the detriment of the latter. Solicitors for attorneys seeking damage suits, claim agents seeking to make settlements with those whose have suffered personal injuries, and "runners" for undertakers who are seeking to increase their business will be denied admission. Political pulls will keep no employees of the hospital who fail to perform their full duty in their places. All discharges of patients will be made only by senior internes, subject to the approval of the Warden. A clinical director, to be selected by the County Civil Service Commission, will be added to the hospital staff at a salary of $1,200 a year. The Executive Committee of the attending medical staff will meet with the Warden each month. For some years these monthly meetings have been dispensed with, and there has been friction between the physicians and the Warden.

To Erect a New College.—Plans for a new college building and hospital, to cost $100,000, were discussed by the Directors of the American Medical Missionary College at their annual business meeting recently. It is thought that the building will be put up near the Cook County Hospital.

Prevention of Illegal Trade in Narcotics.—To prevent the illegal and ever-increasing sale of narcotics in the downtown district, the First District Auxiliary Association of Pharmacists has been formed. The sale of cocaine and morphine in the levee district has greatly increased during the last year, and it is estimated that more than three hundred ounces of the former drug are sold monthly to persons addicted to its use. This is procured without physicians prescriptions, or other authority, the statutes governing its sale being openly violated. Apathy on the part of the City and State officials is said to be the cause of the laxity of the druggists. A committee was appointed to investigate the matter. A more rigid adherence to the provisions of the new State Pharmacy Act, pertaining to registered and competent assistants, also will be required by the Association, and the assistance of the State's Attorney will be asked for its endorsement.

Fire at the College of Physicians and Surgeons.—A bolt of lightning, striking the dome of the building of the College of Physicians and Surgeons, June 25th, set fire to the top floor, where the anatomical and physiological laboratories were situated. The damage done to the college building is estimated at $30,000. The college is insured for $100,000. The physiological laboratory outfit, consisting of apparatus that cost over $15,000, was all destroyed. The damage to contents would have been far more serious, but for the fact that many valuable pieces of apparatus had been taken the day before to the West Division High School, which building has been recently purchased by the College.

GENERAL.

Hospital-Ship "Maine."—The Earl of Selborne, First Lord of the Admiralty, announced in the House of Lords that he had great gratification in informing the House that the hospital-ship "Maine," which was fitted out by a committee of American ladies for the use of the wounded and sick in South Africa and which later was sent to Taku, where she took on board wounded and sick men of various nationalities, had been presented as a gift to the British navy. The hospital-ship "Maine," originally was loaned by the Atlantic Transport Company, through its president, Bernard Baker, of Baltimore, Md., to a committee of American ladies, who fitted the vessel up as a modern hospital ship, placed her in charge of American doctors and nurses, and sent her to Cape Town and Durban to care for the wounded and sick in the South African War. At Cape Town and Durban she received both the British and Boer wounded and sick, and in due course of time returned to Southampton with more than 350 invalided British soldiers.

She was re-equipped there in nine days and sent back to South Africa to bring home another shipload of invalids.

Census of European Nations.—The census returns show the population of France to be, in round numbers, 38,600,000, an increase of 330,000 on 1896. To this small increase Paris and its suburbs contribute 292,000, the greater part of which number is due to foreign immigrants, so that the rest of France gives an increase of only 38,000. Since 1850 the population of France, allowing for alterations of boundaries, has only increased from 35,000,000 to 38,000,000, whereas that of the United Kingdom has risen from 27,000,000 to 41,000,000, Germany from 35,000,000 to 56,000,000, Austria from 30,000,000 to 45,000,000, Italy from 23,000,000 to 32,000,000 and Russia, partly owing to annexations, from 66,000,000 to 128,000,000.

Honorary Degrees for Medical Men.—Several medical gentlemen have been honored with honorary degrees this year. In addition to Professor George M. Lefferts of New York, who received the degree of Master of Science from Columbia, as already mentioned in a previous issue of the MEDICAL NEWS, Professor Theobold Smith of Boston and Professor Otto G. Ramsay of New Haven each received the honorary degree of Master of Arts from Harvard and Yale respectively.

Dr. Koch and the Treatment of Consumption.—A commission, of which Dr. Koch is President, recently visited the Consumptive Hospital at Slawentzitz, in Upper Silesia. The main object was to investigate the use of tuberculin, which for the past decade has been the sole medicinal remedy applied there. Dr. Koch expressed his complete satisfaction at the results of the visit, especially in regard to the treatment. Unfortunately this has not been the experience of others who have given tuberculin a fair trial.

Gift to a Medical Society.—Dr. J. Ewing Mears of Philadelphia has given to the Marion County (Ind.), Medical Society property in Indianapolis valued at $25,000, on which to erect a home for the Society as a memorial to his father, who was a pioneer physician in Indianapolis.

Army Medical Notes.—Major John Carling, Surgeon, United States Volunteers, having tendered his resignation, is honorably discharged from the service of the United States, to take effect July 3d.

Major Damaso T. Lainé, Surgeon, United States Volunteers, is relieved from duty in the Department of Cuba and will proceed to San Francisco for transportation to Manila, Philippine Islands.

Navy Medical Notes.—The following commissions of naval officers were signed by the President last week: Alfred W. Balch, as assistant surgeon with rank of lieutenant, junior grade; William H. Bucher, passed assistant surgeon, rank of lieutenant, junior grade.

Passed Assistant Surgeon R. S. Blakeman is ordered to Norfolk Hospital, July 2d.

Bubonic Plague in Portugal.—Press despatches announce the presence of bubonic plague in Oporto, Portugal. It is said that 12 cases have been reported, with 4 deaths.

Chemistry, Pasteur's Weak Point.—In a life of Pasteur, published in Paris, attention is called to the fact that the man who was destined to revolutionize chemistry came fourteenth in the list of twenty-two candidates at his high school in Dijon, and was marked "weak" in chemistry! His researches in regard to the disease of silkworms are said to have been the means of saving France a sum equal to that paid to Germany as the price of peace. When Napoleon III. became acquainted with Pasteur, what especially excited his wonder was that the eminent man of science had made no attempt to obtain a "legitimate profit" from the commercial application of his labors.

Famine Record in India.—A Blue Book on India, just issued, shows that $90,000,000 was expended for the relief of famine sufferers during the year 1899-1900. The mortality from the plague for the five years ending March, 1901, was nearly 600,000. The census completed in March, 1901, shows that the increase in population during the past ten years was only from 5,000,000 to 6,000,000 instead of the normal 19,000,000. The loss represents deaths from famine and the decrease in births in consequence of the famine.

The Law in its Relations to the Practice of Medicine.—In an article contributed to the July *Forum*, Mr. Champe S. Andrews, counsel to the New York State Medical Society, presents with admirable clearness and force the present status of the law in the several States in regard to restrictions upon the practice of medicine, emphasizes the grave need that there should be everywhere an adequate, accurate, and intelligent definition of what it is to practise medicine, and shows that law and reason are alike against the charlatans who, under various names strive to make the constitutional guarantee of religious freedom a defense against interference with their exploitation of human ignorance and credulity. With complete success Mr. Andrews attacks the grotesque fallacy that the practice of medicine necessarily involves the administration of drugs, and shows that it is not the use of any particular means or method of healing, but has reference (1) to the proper diagnosis of disease, and (2) to the utilization of all means by which disease can be prevented, alleviated or cured.

Harvard's New Medical School.—For several years it has been an open secret that the present facilities at the Harvard Medical School were

entirely inadequate to the growing requirements and that a complete, greatly enlarged and modern plant, consisting of a central administration building, with at least five detached laboratory buildings, including a hospital, was to be erected upon a elegant site that has been secured on Huntington Avenue. It was supposed that the carrying out of the plan would be a matter for the remote future. Nevertheless, the medical Faculty, through a committee consisting of Drs. Henry P. Bowditch and J. Collins Warren, proceeded to draw up plans and specifications for the buildings, which they would like to have and could use next year, if they had them. There would be five large buildings besides the power house. The estimated cost is $2,000,000. Last Friday Dr. Warren received a cable message from Mr. J. Pierpont Morgan, in which he said: "Referring to our conversation and plans submitted, I am prepared to erect the central buildings and two side pavilions as a memorial to Junius Spencer Morgan, a native of Massachusetts and for many years a merchant of Boston. You can announce this." When President Eliot made his announcement of the gift from Mr. Morgan he left the announcement of the donor's name to the very last, as the signature to the cable message to Dr. Warren. Thereupon the crowd went wild, ending in nine Harvards for Mr. Morgan. President Eliot called attention to the phrase "plans submitted," which, he said, included specifications that called for an outlay of more than $1,000,000.

Obituary.—Henry G. Wagoner, M.D., County Physician, of Somerville, N. J., died suddenly July 1st of apoplexy. He was seventy years old and prominent in Masonic and medical societies.

Dr. Charles A. Littler, a prominent physician, of Jackson, Mich., was found dead in the woods twelve miles south of his home July 1st. His jugular vein had been severed, and near the gaping wound was a scalpel, which had been taken from his case of instruments. Dr. Littler was independent financially, and, so far as known, was happy. He was on his way to perform an operation on a patient two miles from where his body was found.

Dr. John K. Curwin, eighty years old, died suddenly of heart disease yesterday at Harrisburg, Penn. Dr. Curwin built the Harrisburg Insane Hospital, and was its first Superintendent. He was subsequently Superintendent of the Warren State Insane Hospital. He served several times as a Commissioner to the Presbyterian General Assembly from the Carlisle Presbytery.

CORRESPONDENCE.

THE VIRCHOW FUND.

To the Editor of the MEDICAL NEWS:

DEAR SIR: Some months ago a Committee, consisting of Dr. Reed, President of the American Medical Association, Dr. Bowditch, President of the Congress of American Physicians and Surgeons, Dr. Weir, President of the New York Academy of Medicine, Dr. Welch of Johns Hopkins University, and the undersigned Secretary, published an appeal to the American medical profession requesting contributions to the Virchow Fund which was established ten years ago in honor of Rudolf Virchow's seventieth birthday, which was reached October 13, 1891. The Fund was created for the purpose of fostering biological, anthropological and general medical research. A large German Committee, with national Committees formed all over the globe, has undertaken to increase this Fund in honor of the coming eightieth birthday of the great medical reformer.

Whatever contributions will be raised should be sent to Germany on the first day of September in order to be received and acknowledged by the Central Committee in due time. As our former notices may have been overlooked by such as are anxious to show their appreciation of the great master and to aid the cause represented by his lifelong labors, we herewith repeat our appeal.

A. JACOBI, *Secretary.*

110 W. 34th Street, New York. July 1, 1901.

SMALLPOX.

To the Editor of the MEDICAL NEWS:

DEAR SIR: Your editorial of June 22d, referring to the discussion on pseudosmallpox before the recent meeting of the American Medical Association, has raised a doubt in the mind of the rural practitioner as to the status of the disease. Will you be kind enough to place before the medical profession the microscopic knowledge of smallpox that has been acquired up to the present time, just as has been done for other infectious diseases?

J. H. BILES, M.D.

Teller, Colorado, June 27, 1901.

OUR editorial on "The Smallpox Situation Once More" (MEDICAL NEWS, June 22d, p. 991) in commenting on the discussion on smallpox at the St. Paul meeting of the American Medical Association called attention to the possible existence of a third disease in the smallpox group intermediate to variola and varicella, as German measles is to measles and scarlet fever in the other group of exanthemata. We said that further observations along this line are eminently desirable as the question involved is one of the most important in medicine. We expressly warned, however, against permitting indefinite conclusions and inadequately completed observations to hamper the work of sanitation and universal vaccination which constitute our only safeguard against the smallpox that undoubtedly exists in only too many parts of the country.

With regard to doubts that may be raised in the mind of the practitioner, our editorial was meant to encourage wholesome skepticism, the

blest predecessor of more definite knowledge. To doubt is better than to be too sure. Uncertainty encourages accuracy of observation and this is just what is needed in the present situation in order to settle the vexed question of so-called pseudosmallpox (a term unjustified in the present state of the discussion) and make clear the status of certain doubtful cases that are certainly of the smallpox type.

The finding with the microscope in the present state of our knowledge cannot be of help in the solution of the problem. We are not as yet certain of the microbe that causes the disease. On page 388 of the MEDICAL NEWS, Vol. 78, there is an editorial review of the recent contributions to medical literature regarding the cause of smallpox. Like cancer it seems to be due to a protozoon, but that is all that can be said. However, without knowing definitely its cause, it may be possible to differentiate a disease resembling smallpox from true smallpox, for, after all, it must be remembered that we do not know the cause of either measles or scarlet fever, although we have succeeded in differentiating German measles from them.—[EDITOR.]

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, June 22, 1901.

THE GENERAL MEDICAL COUNCIL—AN ANTIMALARIA EXPEDITION TO SIERRA LEONE—THE FOUR-HUNDRED-AND-FIFTIETH ANNIVERSARY OF THE UNIVERSITY OF GLASGOW—SOME OF ITS MEDICAL GLORIES—THE MEDICAL PROFESSION AND THE WAR OFFICE—PROPOSED DINNER TO THE LATE DIRECTOR-GENERAL OF THE ARMY MEDICAL SERVICE—ANTIVIVISECTIONISM—LORD COLERIDGE AND THE ATHENÆUM CLUB: A RECORD "PILLING"—THE KING AS A PHYSICIAN.

THE General Medical Council, as to the functions of which I had something to say in my last letter, got through its work in a week, a record achievement for that slow moving body. The explanation is that it had not much to do. The principal matter before it was the contumacious conduct of the London Colleges of Physicians and Surgeons in regard to the five years' curriculum of medical study. This extended period of study was made compulsory by the Council a few years ago, and it naturally does not care to see its authority defied by the chief licensing bodies in England. The Colleges accept time spent by boys in grammar schools working at physics, chemistry and biology as constituting one year of the prescribed five of medical study, and virtually reduce the curriculum to four years, thus stultifying the enactment of the Council. The Irish Colleges, as was to be expected, have expressed their intention of following the example of their English sisters. There was an animated debate in the course of which the representative of the Royal College of Physicians, Dr. Norman Moore, declared that he would rather see the registration of medical students done away with than give up the rights, or, as he preferred to call them, the responsibilities of the institution of which he is the champion. The practical outcome of the discussion was that the Council agreed to reconsider a question which it had already decided and thus, in fact, surrendered its position. The whole controversy is largely a question of words, for ever since the establishment of the five-year curriculum one of them has in fact been devoted to subjects which are merely preliminary to the study of strictly medical subjects.

The other work of the Council included the hearing of charges of unprofessional conduct against medical practitioners. A surgeon in the navy was struck off the *Medical Register* for adultery with a patient proved in a public court of law. This sentence involves dismissal from the Navy and professional ruin. Dr. Ward Irvine, the *protégé* of the all-powerful Chamberlain clan, of whom something was said last week, appeared before the Council and was in effect dismissed with a caution. He had been summoned on an earlier day, but did not find it convenient to attend. The Council should really be grateful to him for helping it out of an embarrassing position, for if he had dared its wrath by staying away, it could scarcely, in view of the fact that he had ceased to commit the offence charged against him, have pronounced the sentence of major excommunication upon him. It would, indeed, have been in much the same predicament as a former Speaker of the House of Commons who threatened to "name" a refractory member. On the member inquiring what the consequences of this awful threat would be, the Speaker said solemnly, "God only knows." The situation was saved by the attendance of Dr. Irvine, and the incident is now closed as far as he is concerned, but some of the papers contend, not unjustly, that Mr. Joseph Chamberlain should apologize to the Council. This, it may safely be predicted, he will not do.

It may be mentioned that the Council has been looking into its affairs and has discovered that its financial position is unsatisfactory. It has found it necessary to ask the advice of an expert who, among other suggested retrenchments, proposes that the sessions should be shorter, the fees for attendance smaller and the allowances for travelling expenses less liberal. It is certain that the payment of twenty-six dollars a day to each member is a direct encouragement to exuberance of oratory and a cause of the deliberations of the Council being in Milton's phrase "in linkéd sweetness long drawn out." The medical profession would put up with less "sweetness" if it got more solid benefit from the Council.

Major Ronald Ross recently sailed from Liverpool for West Africa on a crusade against the deadly gnats whose bits breeds malaria. He proposes to attempt the extermination of the whole tribe, first at Sierra Leone, then, if success crowns his efforts, in other settlements along the

coast. He has a number of big Liverpool merchants at his back so there will be no difficulty about the sinews of war. All the supplies for the expedition have been given by merchants interested in its results, one contributing an abundance of oil, another all the cement required, a third a large quantity of chlorine compounds and sulphur, others materials for fumigation, etc. Dr. Matthew Logan Taylor who has been assistant to the Professor of Pathology in the University of Glasgow goes as the Major's assistant, and other scientific helpers will probably join the expedition later. Although the plan of suppressing malaria by the extermination of mosquitoes was advocated by Ross himself in a report to the Government of India in February, 1898, and although it has been carried into execution in Italy and also, I believe, in America, no municipality in the British Colonial possessions—except Hongkong—has hitherto had the enterprise to act on the suggestion. Ross calls this stupidity, but the municipalities would doubtless retort that it is partly at least want of money. Ross himself estimates the cost of the work at Freetown, Sierra Leone, alone as $3,000 a year, and it will probably be a great deal more. If, therefore, he is to rid West Africa of mosquitoes, he will have to carry on a war almost as costly as that in South Africa and of far longer duration, for mosquitoes are "slimmer" even than Boers.

The University of Glasgow has this week been celebrating with appropriate pride, pomp and circumstances, the four-hundred-and-fiftieth anniversary of its foundation. Like the other universities of Calvinistic Scotland, with the single exception of Edinburgh, it was founded by a Pope—Nicholas the Fifth, who gave it a constitution on the model of the University of Bologna. Glasgow has the names of many great men on its roll of fame. Among them (to take the classification and examples of a leading newspaper) are "philosophers, theologians, historians, scholars, statesmen, orators and men of science," such as "Bishop Elphinstone, John Knox, Andrew Melville, Robert Baillie, Archbishop Leighton, Bishop Burnet, Thomas Reid, Colin McLaurin, Adam Smith, James Watt, Thomas Campbell, Archbishop Tait, Professor Lushington, and Principal Caird." I have quoted this list as a curious instance of the indifference to the work of medical explorers and discoverers that prevails even among those whose business it is to lighten the darkness of what the man in the street is pleased to call his mind. I am not concerned to dispute the greatness of the men mentioned above, though I think it doubtful whether the celebrity of some of them has traveled across the Atlantic. But if the whole batch were placed in the scale of real achievement against the single name of Lister, is it not the simple truth that they would kick the beam? Lister was connected with Glasgow in his early days, and it was there that he made his first gropings toward the far-reaching truth of which he has been at once the prophet and the apostle. Another of Glasgow's glories is Professor Macewen who is held by many here to be the very best surgeon in the United States. But he is one of Carlyle's strong silent men, and the outside world hears little of him. A characteristic incident will show what manner of man he is. Some thirteen or fourteen years ago Victor Horsley published a successful case of removal of a small tumor of the theca and was straightway hailed, not only by the profession, but by the public as the pioneer of brain surgery. In 1888, when the British Medical Association held its annual meeting at Glasgow, a hard-featured, *dour*-looking man delivered an address in which, without ostentation, he gave particulars of various operations performed by him on the brain during the previous nine or ten years. The effect was electric; the whole meeting sprang to its feet and cheered till it was hoarse. It applauded not merely the achievement, but the character of the man who had slowly built up his cairn of truth without proclaiming the fact from the housetops every time he laid one stone on another, as is the fashion with too many enterprising operators. Macewen is in the sphere of surgery a man of action; he has done much but written little, but what he has written is nearly all pure gold. Another Glasgow celebrity who might be claimed for medicine is Sir Joseph Hooker, the famous botanist who for many years was the presiding genius at the Royal Gardens, Kew. He took the degree of Doctor of Medicine at Glasgow in 1839, and, like his friend Huxley, served for some years as a surgeon in the Navy. Hooker was also an intimate friend of Charles Darwin. Of Sir William Gairdner, late Professor of Medicine at Glasgow, something was said in last week's letter. Though he now lives at Edinburgh, his name must always remain associated with Glasgow where he did much to form the minds of successive rising generations of medical men.

The temper of the profession is gradually rising as it recognizes more and more clearly that the slights put by the Secretary of State for War on the Medical Service of the Army are part of a fixed policy. How the Director-General, Dr. Jameson, was driven from office has already been related. Since then various incidents too petty to chronicle, but none the less irritating to those concerned, have occurred, and it is plain that Mr. Brodrick is for some inscrutable reason of his own at war with the doctors. The result is that there are no candidates for commissions in the Service. There is in London a physician whose special line of business is the "cramming" of men for the Army examinations. Practically all of them go through his hands, and the authorities of the Medical Department have thus been able to form an accurate forecast of the numbers likely to present themselves for the various services. At present there is said not to be a single man preparing for either the Army or the Navy; and there are only five for the Indian Medical Service which a few years ago attracted many ambitious men. Such are the consequences of the

profound distrust which has been bred in men's minds by the attitude which the Government has thought proper to assume towards the medical officers in the service of the Crown. The War Office in particular needs to be continually reminded of the fact that, while the Army cannot do without doctors, the medical profession can perfectly well do without the Army.

As one way of expressing its feelings on the subject, the profession is to give a complimentary dinner to the late Director-General of the Army Medical Service. It is intended to make it fully representative of the profession in Great Britain, and as the movement has already received the approval of the Presidents of all the Colleges and of the heads of the profession in the three kingdoms, its success may be regarded as assured. Though not professedly a manifestation against the Secretary of State for War, the dinner is in reality designed for that purpose. It will in fact be a declaration of war between the profession and Mr. Brodrick. The issue can scarcely be regarded as doubtful for the profession has the Secretary of State virtually at its mercy.

It was mentioned in a previous letter that the antivivisectionists are once more on the warpath. They are trying to induce charitable persons to withhold subscriptions from hospitals on the avowed ground that some of the physicians and surgeons on the staffs of those institutions are or have been vivisectors. Even this, as a bald statement of fact, is likely to mislead the public. But the philozoic fanatics go much further than this by insinuation, for they speak of "living human beings" in hospitals, being handed over to the tender mercies of "physiologists," obviously with intent to produce the impression that patients are used for experiment. They have "sandwich-men" parading the streets with gruesome pictures of mutilated dogs, etc., in the lurid style of the low prints which try to make the public's flesh creep by illustrations of the latest murder. I fancy our antivivisectionist friend are overdoing it. At the Athenæum Club the other day, Lord Coleridge, ex-President of the National Antivivisection Society, was black-balled in a most signal manner; he got 68 "pills" in a total vote of about 240—probably a record. The Athenæum is our leading club in respect of the literary, scientific and personal eminence of its members, and therefore it is regarded as a social distinction to belong to it. Lord Coleridge's rejection was brought about by the "doctors" in spite of the strenuous support of bishops, deans and judges with which the Club swarms.

The King has "honored" the Royal Medical and Chirurgical Society by signing its roll. His Majesty is already a Fellow of both the London Colleges, so that he may be claimed as a "doubly qualified" member of the medical profession. By the way, people are noticing more and more his strong resemblance in face to Henry VIII. A further coincidence is that "Bluff King Hal" was, according to Froude, one of the best physicians of his day; he was likewise the founder of the Royal College of Physicians of London of which his descendant (for our Royal family lays great store on its supposed possession of an infinitesimal portion of the blood of the older Kings of England) is now an ornament.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

SPINA BIFIDA OCCULTA—SPINAL PARALYSIS IN CHILDREN—BABINSKI'S SIGN OF NERVOUS DISEASE—EARLY TABES DORSALIS AND SYPHILITIC GUMMA—CARCINOMA OF THE NASOPHARYNX—DIABETES AND TRAUMA—PERNICIOUS ANEMIA AND THE LOSS OF BODY ALBUMINS.

KATZENSTEIN, at the Berliner medicinische Gesellschaft, May 8, 1901, read a paper on the pathology of spina bifida occulta and presented several patients in whom he had been able to obviate or decrease the nervous symptoms by a resection of the membrana reuniens posterior, which had been the source of pressure upon the cord.

PLACZEK in a contribution on spinal paralysis in children gave the clinical and anatomical findings of a case of this class which after three months' suffering died. In the spinal cord the anterior gray horns were diseased practically throughout their length. In addition to this there were degenerations and even atrophy in the muscles and peripheral nerves. In the gray matter the ganglion cells were greatly degenerated and often entirely absent. In addition there was present a great vascular proliferation with a small-cell infiltration of the lymph-spaces about the adventitia. The glia had been split up but nowhere was it really proliferated. The white substance was everywhere normal. Upon these facts the contributor argued that between the two opposite sources of the disease, namely the ganglion cells and the vessels, he was inclined to think that the latter obtained.

L. MICHAELIS, at the Verein für innere Medicin in Berlin, May 6, 1901, showed the preparation of a brain-tumor taken from a young girl. During life the girl had shown Babinski's phenomenon in the right foot, hence the inference was made that the growth was in the left motor tract. It was found in the left medullary substances. From his observations in hospital practice he was led to the belief that whenever the Babinski sign is present there is an organic nerve-lesion behind it.

PLIHN showed the spinal cord and brain from a case of early tabes dorsalis. There was a cheesy connective-tissue mass grown upon the cord and upon the cortex of the brain. Examination showed that there were no tubercle bacilli in it. From this it was concluded that the nodes must be syphilitic, which makes the case a rare contribution to the cause of the disease, usually assumed as syphilis.

A. FRAENKEL presented a specimen of primary

carcinoma of the nasopharyngeal space which had extended by direct contiguity to the base of the skull and spinal column and finally led to the breaking off of the odontoid process. Death did not suddenly follow this accident. The chief symptoms were paresis of the various cranial and cervical nerves and very great pain. The effort of the patient had been to keep his head absolutely still, using his hands as support. The clinical diagnosis had been some form of bone disease, apparently caries.

LITTEN took up the relation between diabetes and traumatism and related the facts of a case in which he had been interested. In December, 1894, a gentleman fell on the sidewalk sustaining a severe injury to one hip which soon began to swell enormously. The next day pain of excruciating degree appeared and was followed by coma. He was then removed to the hospital where three per cent. of sugar was found in his urine. After ten days of uninterrupted coma the man died. The two questions for settlement are, was the accident the cause of death, namely, by first having produced the glycosuria, or did the sugar indicate a diabetes which was at the bottom of the whole history, making the coma entirely due to that? He felt that the answer to the former question must be negative on the grounds of the various details in the history and that the second question must be affirmatively answered.

STRAUSS said that in his experience he had seen several examples of alimentary temporary glycosuria produced by accident. He is of the opinion that trauma may induce a relative failure of assimilation of the carbohydrates. Jastrowitz stated that he had a patient in whom fear alone had caused a diabetes.

E. ROSENQUIST (Helsinfors A. G.) stated that for many years he had been studying pernicious anemia, especially botriocephalus anemia; and had long ago claimed that such anemia is accompanied by a great loss of the body albumin. Other authors had at once disputed this and held that when the albumin loss is very great there is always some other pathological process at the bottom of it. Various experiments by Strümpel, Eichhorst and others appeared to be the foundation of their theory, but to-day these observations would not be accepted as conclusive proof. In his native town he has had an unusually fertile field for observing bothriscephalus anemia, and the following are his results: In fifteen patients afflicted by the parasite, he found in eleven a great loss in albumins, ranging from 0.5 to 6.6 grams per diem, before the driving-out of the worm; after the elimination of the worm he saw from day to day a resumption of albumins. This restoration was not an absolute one, but with some variations was on the whole and in a general way a balance of the loss. This increase in the nitrogenous substances of the body also occurred when there was unfavorable dietetic surroundings. It seemed, therefore, that as soon as the worm is driven out the tissue-building forces of the body again become active. The loss in albumin is present not only on the part of the blood, but also in all the tissues. The explanation of this loss lies very likely in a poison given out by the worm itself. The anemia alone can not be its source. The question as to why in the regular presence of this toxic substance among so many patients suffering from the worms so very few show a pernicious anemia, may be fully answered by assuming an individual vulnerability. The number of red cells followed in regular proportion the degree of albumin loss, but in seven of his patients he noticed that there was hardly a change in the condition of the red cells. Whether this was due to a peculiar resistance of these red cells or to an increased activity in the production of the cells or to both combined could not be decided. He has also observed a similar state of affairs in three patients with kryptogenetic anemia, which also appears to be toxic in its origin. No distinctions between the two kinds are discoverable.

SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

Fifty-Second Annual Meeting, Held at St. Paul, Minn., June 4-7, 1901.

SECTION ON DISEASES OF CHILDREN.

FIRST DAY—JUNE 4TH.

Chairman's Address.—This was read by Dr. Samuel W. Kelley of Cleveland, Ohio, who said in part: The advancement of the surgical side of pediatrics is very important, and has been slower in its developments than the medical. In the cases of children abnormalities are found and the same diseases that occur in adults are marked by different phenomena. All are aware what peculiarities surround operative work upon children; how ill they bear hemorrhage, cold, or prolonged shock, and how wonderfully they recuperate once the stress of the storm is passed. The surgeon should at least be required to extend his knowledge to diseases of children.

Measles.—Dr. J. B. Garber of Dunkirk, Ind., said in his paper that the poison of measles spreads by contagion from one person to another and is given off by the breath and secretions. The period of incubation is now well established, and is found to be about fourteen days from the time of exposure. The prodromal symptoms last about three days, and are associated later with catarrhal symptoms. Fever is always present, coming on as early as the second day; often remitting and rising again just preceding the eruption; laryngeal cough, drowsiness, loss of appetite and vomiting usually occur; sometimes convulsions. On the third or fourth day the eruption appears, usually preceded by Koplik spots which

disappear as the eruption progresses. When the rash begins to disappear, if the fever continues, complications are to be feared; for in complications lie the danger of measles.

Dr. Slagle stated that he rarely found Koplik spots. Second attacks of the measles have not been common in his experience. Usually when a second attack is diagnosed as measles, it has been found that it was German measles.

Dr. J. M. Postle was sure that he had seen true measles recur in several cases, and had found benefit in the treatment of measles from the internal administration of suprarenal glands.

Dr. Barber called attention to the danger of endocarditis following measles. Dr. Townsend regarded enlargement of the post-auricular glands as pathognomonic of German measles.

Pathology and Treatment of Pertussis.—Dr. J. M. Postle of Hinckley, Ill., presented the next paper in which he said that pertussis is a toxic neurosis produced by a bacterium probably by that of Czaplewski, Hensel and Koplik, invading the tissues beneath the mucous membrane of the respiratory tract. These bacteria produce a toxin which has as the point of special selection for attack the nerve-cells governing expiration. These nerve-cells are depressed with resulting clonic spasm of the expiratory muscles. Excess of carbonic-acid gas in blood produces powerful stimulation of the nerve-cells governing inspiration, at the same time, partially or completely destroying the toxin. Children, therefore, when playing around gas works have whooping-cough lightly. The treatment consists of the administration of suprarenal glands, strychnine, or any preparation of nux vomica which may be given hypodermatically or by the stomach, and should be pushed almost to the full limit or slightly toxic effect.

Antenatal Treatment of Hemophilia.—This paper by Dr. J. W. Ballantyne of Edinburgh, Scotland, was read by Dr. Darnell. Hemophilia is clearly and persistently hereditary. The probability is that male offspring will be hemophilic, though the female offspring usually escapes. There is a presumptive diagnosis of antenatal hemophilia when such a woman is pregnant with a male infant. The following case is reported; Mrs. C., thirty-four years of age; third pregnancy; tall, well built; rather spare with black hair, sallow complexion; has always lost much blood at her menstrual periods and had postpartum hemorrhage after both previous confinements. She has a distinct family history of hemophilia and the first child at birth was white and anemic but is a marked "bleeder" having nearly succumbed several times during the cutting of teeth. The second infant, a male, showed hemorrhage from the umbilical cord at birth and died at the age of twelve months during dentition, the cause of death being returned as cerebral hemorrhage. When the mother became pregnant for the third time, I advised that chloride of calcium be given to the mother trusting that it would pass through the placenta and reach the fetal tissues, although theoretically, the hope of success was small; iron, arsenic and strychnine were also administered in order to improve the general health, increase the tone of the uterine muscle, and lessen the risk of postpartum hemorrhage. This treatment was carried out for three months. On October 3, 1900, a male child was born, red, mottled, and healthy in appearance—indeed, in all respects normal; there was no hemorrhage from the cord, no postpartum hemorrhage for the first time in the mother's obstetrical history, and she was able to nurse her infant. The child has never had any bleeding, and did not bruise like his brothers. There are circumstances which encourage the opinion that, after all, the treatment in this case may have something more than a coincidental relation to the healthy state of the third infant.

SECOND DAY—JUNE 5TH.

Symptoms of Typhoid Fever in Infancy and Childhood.—Dr. J. P. Crozer Griffith of Philadelphia read this paper. The symptoms of typhoid fever in children differ in many respects materially from those seen in adults. To insist that the cardinal symptoms must always be present would lead us into frequent errors in diagnosis. The affection is far from rare in infancy and the failure to recognize it is rapidly disappearing, because we are more on the alert for it, and have the serum reaction test to aid in the diagnosis. The peculiarity of the onset of typhoid in children is its indefiniteness. The great degree of malaise and fatigue is absent. There is loss of appetite, slight indisposition and some headache. The temperature does not abate and, although the child scarcely feels ill, the diagnosis of typhoid fever may be made by exclusion. The child is sent to bed on general principles and not because it wants to go. In the second class of cases the onset is sudden, with vomiting and fever from the start and the rash is discovered. Perhaps only the Widal reaction will differentiate the disease from indigestion, enteritis or influenza. Another peculiarity is that the course of the disease is shortened; abortive cases are common, it is milder than in adult life and the mortality lower. Enlargement of the spleen is usually present but not usually discovered. The pulse is often unusually slow as compared with the rate which one would expect for the same elevation of temperature in other diseases. The temperature curve is similar to that in adults. Not infrequently it rises rapidly without the step-like ascent. Often it remains high without the tendency to morning fall. Towards the end of the attack it falls often with much greater rapidity

than in adults. Indeed the fall may be almost critical at times. The tongue is not as liable to become dry and parched. Diarrhea is more liable to be absent than present. Abdominal distention is not often a troublesome symptom, though often present. Hemorrhage is of rare occurrence. When it does occur it is usually in later childhood. Perforation is also of uncommon occurrence, the infrequence of these two symptoms probably being due to the less pronounced development of intestinal lesions. One of the characteristics is the tendency of the nervous symptoms to predominate over the intestinal. Slight delirium is common, especially at night. A certain degree of apathy is very frequently present especially in very young children. As a rule, the diagnosis can be easily made, but sometimes typhoid fever begins in children with all the appearances of acute leptomeningitis and leads for a time to an entirely erroneous diagnosis.

Diagnosis of Typhoid Fever in the Laboratory.—Dr. John Lovett Morse of Boston protested against the separation of laboratory and clinical methods in the diagnosis of typhoid fever. They should not be thought of separately but together. Both are fallible and both should be used understandingly. The value of the various laboratory tests are unequal. All have their limitations. The Widal reaction is present in 95 per cent. of all cases of typhoid fever. It seldom appears before the second week, but negative tests are very strong evidence against typhoid fever. The reaction may persist in the blood as long as twenty-nine years after recovery from typhoid; hence a positive reaction in the absence of other symptoms is not diagnostic of typhoid, unless one can be sure the patient has never had typhoid. A negative reaction followed by a positive reaction in a dilution of one to fifty is absolute proof of typhoid. The Widal reaction appears in children under the same conditions as in adults, but appears earlier, is feebler and persists for a shorter time than in adults. In infancy the reaction is of less value than in older children and adults, because it may be transmitted to the infant through the mother. When transmitted through the milk it does not persist for more than a week. Examinations of the stools have shown the presence of the typhoid bacilli in from three to five days after the patient has taken to his bed. The test is nearly equal in value to the Widal reaction. The examination of the feces requires a complete laboratory and much expert knowledge and is therefore not practicable for the average general practitioner. Typhoid bacilli may be found in the urine in from twenty to thirty per cent. of the cases, but not until the later stages of the disease. The rose spots almost invariably showed the presence of the bacilli five or six days before the appearance of the Widal reaction. The diazo-reaction is simple and can be made by any one, but as it is also present in tuberculosis, septicemia and other febrile diseases, the very conditions with which typhoid is easily confounded, it is of comparatively little value. The leucocyte count is important and is subnormal throughout the entire course of the disease. An increase in the number above normal means some complication, such as hemorrhage or inflammation or some outside influence, such as cold bathing. If a differential diagnosis is desired between malaria, examination of the blood for the plasmodium malariæ will clear up the doubt. If meningitis is suspected, lumbar puncture should be resorted to. The author concludes that the Widal reaction and the leucocyte count are the most important of the laboratory methods in diagnosis of this disease, because they are practicable and easily carried out, other tests, although perhaps more accurate, are at the same time impracticable.

Treatment of Typhoid Fever in Children.—Dr. Henry E. Tuley of Louisville, O., considers trained nursing of great importance. It is next to impossible for a mother beset with the cares and responsibilities of a household, especially if there are other children, to care properly for a patient with typhoid fever. The dietetic treatment is important. Fresh milk is unsuitable for a regular diet; broths may be given, whey, predigested milk, some of the cereals and the concentrated foods. No regular routine of medicinal treatment is possible. The treatment should be largely symptomatic, only such medicines being given as are absolutely essential. No antipyretics should be given internally. The condition of the heart should be zealously watched, and strophanthus and strychnine administered if it begins to flag, while alcoholic stimulation should be reserved for administration late in the disease. In hydriatic treatment excellent results have been obtained. Full baths, however, are rarely possible in private practice, but frequent and prolonged sponging gives almost equally good results.

Dietetic Treatment of Typhoid Fever.—Dr. Louis Fischer of New York said that the toxemia of the disease shows itself principally on the heart and circulatory system, which should be carefully watched and stimulated as demanded. He then gave a résumé of foods he had used with success in a series of typhoid cases. Foods should be peptonized and, if necessary, sterilized or pasteurized. Salines have proven of great value, especially the infusion of saline infusions *per os* or *per rectum*, and if coma prevails they should be used by hypodermoclysis. Albumin and salt also may be administered subcutaneously. Plenty of water should be given to drink, and this is some cases may be improved by having it charged with carbonic acid gas. If severe vomiting and gastric disturbance exist the food should be given by the rectum. On the other hand, if severe diarrhea and tenesmus be present, feeding

should not be given by rectum, but through the stomach.

Multiple Gangrene Associated with Cholangitis Complicating Typhoid Fever.—I. A. Abt, M.D., of Chicago, reported the case of a female child, aged twenty-one months that came under observation on the fourth day of its illness. The father was in the hospital with a well-marked typhoid. Examination on admission shows the tongue coated, the abdomen tympanitic, the spleen palpable and enlarged. The Widal reaction was positive. Temperature was 103° F., and there was a slight edema of the extremities. About ten days after admission it was noted that furuncles appeared on the scalp and over the scapula of the left side. After the child had been ill about two weeks, an eruption appeared on the back, neck and extremities. At first, papules appeared; later these became pustules, and in a very short time appeared as areas of gangrene. Summing up the affection of the skin, the following features present: In the course of a febrile disease there developed over the body a number of lesions in the following order: Red macules, papules, flaccid vesicles, and blebs. Also pustulated or crusted papules, umbilicated vesicles, and ulcers with a dirty, grayish, moist slough. The ulcers have steep margins, are mostly oval in shape, and vary from the size of a split pea to a penny. The whole eruption impresses one as a multiple embolic process in the vascular system of the upper corium leading to gangrene of the type called infectious multiple gangrene. Autopsy showed the gangrenous areas in the skin which have already been described. The pericardial sac contained fluid. The myocardium was pale and flabby; the lungs were edematous; the spleen was enlarged and showed presence of infarcts; the kidneys were negative; the liver was large, light brownish in color, and distinctly soft. Over the entire surface there were a large number of whitish areas, about the size of the head of a pin. These were surrounded by a red border, and were irregularly scattered throughout the organ. Microscopically, these areas are seen to be due to a necrosis of the parenchyma adjacent to the interlobular vessels. A study of these sections from the liver shows an inflammation of the bile passages, an angiocholitis. The liver also shows the presence of an adenoma.

Treatment of Temperature by Drugs.—Dr. Edwin Rosenthal of Philadelphia in this paper said that a thorough knowledge of the febrile movement, its cause and its dangers, is as necessary as of the drugs to be used. In the choice of remedies, one must use a surprising amount of judgment. The bad influence of too much drug treatment cannot be questioned, but it is a misleading delusion to say that we can always avoid it. Careful investigation proves that no special specific virtues can be designated; for this reason I cannot find one drug which has stood the test of time and impartial judgment. While all the ordinary coal-tar derivatives have been thoroughly tried, none of them are allowable.

Discussion.—Dr. Victor C. Vaughan of Ann Arbor, Mich., drew attention to the fact of typhoid fever occurring less frequently in children than in adults, and explained this fact by the child not getting around and drinking water from so many sources as an adult; this is the reason why typhoid infection occurs less frequently in women than in men. It has also been said that typhoid fever occurs less frequently in cases of pregnant women; cases of typhoid fever seem to be less severe when the infection is a mixed infection, for when there is a mixed infection with the colon bacillus an irritative diarrhea is set up which causes the intestinal canal to be regularly drained of its poisonous contents. It is high time to stop experimenting with antipyretic drugs. If these dangerous drugs are to be used, let us make our experiments on animals and not on human beings. The only way to reduce temperature is by the cold bath. The occurrence of multiple gangrene is an exceedingly interesting matter, and has been found in malaria, smallpox, etc., as well as in typhoid. The fact of being able to diagnose these things by a positive discovery of the bacillus gives us now a clearer insight into the disease.

Dr. Charles Douglass of Detroit found the medicinal treatment of typhoid fever very unsatisfactory; temperature may be controlled entirely by baths and proper regard to the diet. The diet should always be kept down to the point where there is perfect digestion, then fewer baths and less medicine are necessary; he does not agree with the popular idea with regard to the use of calomel in small doses; his experience is that cases which are allowed to preserve quiet bowels continue to a steady recovery; the temperature goes steadily down without purgation if proper care is used in the diet. Feeding should be such as to make the stools normal in character and free from any bad odor.

Dr. F. Wood thought we frequently fed our typhoid patients too much; less food, less medicine and more water give better results than overfeeding. It is very important to provide perfect quiet for these cases. Do not allow them to become restless, talk too much, or be bothered. Do not urge them to eat at all unless they want to eat. Oftentimes injudicious use of milk will cause tympanitis. If hemorrhage occurs, perfect quiet should be maintained by the use of morphine. Quiet is more important in this complication than any medicine.

Dr. Head pointed out the great value of the leucocyte count as an aid to the differential diagnosis between meningitis and some of those forms that come on like appendicitis.

Prolonged Intubation.—Dr. Edwin Rosen-

thal of Philadelphia read a paper upon this subject. With the advent of diphtheria antitoxin the operation of intubation obtained a fixed position. To the antitoxin is also due the very many accurate results obtained in the study of the progress as well as the sequel of diphtheria, especially of the laryngeal type and those most serious cases requiring intubation. By this procedure we are not only able to relieve the impending suffocation, but we cure. Where before we were expectant, now we are more certain. The tubes should be removed within five days unless it be removed by expectoration before and then be no longer required. If the patient requires the tube longer than this time, it will be impossible to state when it may be safely discontinued. Cases in which the tube must be replaced, even after a week, should be considered abnormal and should be classed under the head of prolonged intubations. Welch reports a case in which the patient required the tube eleven months, finally dying of suffocation. Engelmann and others report the same results.

A case is reported in which the tube was worn, being removed occasionally, for a period of thirty-six days.

Gonorrhea in Boys.—Dr. A. L. Wolbarst of New York called attention in this paper to the frequency of this disease in young boys, twenty-two cases ranging from eighteen months to twelve years of age having fallen under his personal notice. The author speaks in this connection of the great value and importance of circumcision. Every case of gonorrheal urethritis he says offers a most eloquent plea for the circumcision of all male infants. Complications occur in young boys similar to those of adult cases, after the disease has lasted several days. Posterior urethritis, prostatitis and epididymitis have occurred in these cases. There was a total inability to pass urine in one case. The disease also lasts from four to six weeks as in the adult, though the prognosis as to complete and early recovery seems usually to be better in children. Prophylaxis consists in the education of the people to the dangers of the disease. Stringent laws should also be passed for the protection of children.

Discussion of Gonorrhea in Boys.—Dr. Edwin Rosenthal of Philadelphia said gonorrhea is seen so frequently that it might be looked upon as an epidemic. Where the gonococcus is present, we can positively determine the existence of the disease and often trace the guilt of the crime where it occurs in the young child. The overcrowding in tenement districts is responsible for perhaps the most of it in the poor. Dr. Clifton Scott did not think that it was confined to tenement houses. There is a great need for education even among men and women of the better classes. When people come to understand that there are not only vicious men but also vicious women, these questions will be looked at in a different light from the present. For the dissemination of gonorrhea among young boys, servant girls and maids who force connection upon them and thus give first lesson in vice are largely responsible. Formerly it was not thought unsafe when sleeping accommodations were limited by reason of visitors or for other causes, to allow the young boy of ten or twelve years of age to sleep with the maid. Often with result that the innocent boy had been infected with this vicious disease. Dr. C. F. Wahrer referred to the fact that it was not such an unusual matter for children under the age of puberty to indulge in sexual gratifications. A case came under his view in which a boy of thirteen was invited by one of his companions to meet a certain girl of sixteen years of age at a barn where he was shown how by his companion and was then given his first lesson. When the matter was traced up, the girl confessed with unblushing effrontery that she had been engaged at this sort of thing for a long time and spoke of the special enjoyment it was to instruct the new subject.

Dr. A. C. Cotton referred to the astonishing ignorance of the laity, even well informed people, upon this subject. The number of alleged assaults upon little girls is remarkable in number and it is astonishing how many causes of gonorrhea occur in small children. One source of this in the cases of the little girls is where some brutal man while he does not lacerate or cause an injury to the little child, seems to get a peculiar gratification in rubbing his organ against the little one's thighs. The girls of course develop gonorrhea. Intercourse among children before the age of puberty oftentimes occurs. In his dispensary service there was a string of eighteen or twenty little girls whom we found on investigation had come from the same neighborhood. They were of a variety of nationalities. On tracing the matter up it was found that a ten-year-old boy with one of these mature and vicious faces and of course with complete ignorance of what he was doing, had been infecting these eighteen or twenty little girls. Mothers and fathers, especially the latter, with an old gleet not uncommonly infect the innocent child by allowing them to use the same chamber that they have previously used themselves.

Dr. Cook thinks that the time has arrived when the public should be educated on these matters and when they should all know the life history of the gonococcus outside of the human body. Prophylaxis and a thorough knowledge of the dangers of the disease should be taught thoroughly to every patient who comes for treatment. Many cases spread the disease innocently laboring under the delusion that they are cured themselves when as a matter of fact, latent germs exist within their own bodies.

The Pubescent School-Girl.—Dr. Wm. Edgar Darnall of Atlantic City, N. J., read a paper upon this subject in which he dwelt upon the great importance of the period of puberty in girls. The average girl at puberty is at school and under the modern high pressure system is straining every effort to keep up with her duties and using up all her vitality in mental pursuits. Her physiologic processes make even greater demands on the girl than those of the boy do on him. In addition to performing the same work as her brother in school, she is also expected to acquire the accomplishments, such as music and painting at an early age when she ought to be out in the open air. These years are very needful for the perfect development of the sexual organs, and the woman's whole future health and happiness may hang upon the result. Hysteria, irritability, neurasthenia, and sexual incompetency are the outcome, and the girl although bright, intelligent, and accomplished, perhaps enters life the possessor of a large outfit of headaches, backaches, and other evidences of physical unfitness. Painful menstruation is the bane of the existence of the school-girl. Chapman thinks fully seventy-five per cent. who have reached the pubescent age would give a history of painful and scant menstruation. Engelmann tabulated five thousand cases and found about sixty-six per cent. with more or less menstrual suffering. The fact of the pains being increased with hours or intensity of study, with worry and emotion, and being diminished or ceasing entirely without treatment of any kind during vacation, is a fitting commentary on the underlying causes. The girl's life during the oncoming of puberty should be carefully watched, and her studies restricted if necessary; in some cases she should be taken from school altogether for a year. Especial attention should be paid to properly regulating the functions of the bowels and bladder. All stimulants and excitements, late hours and children's parties should be prohibited. Plenty of sleep should be had by them, proper diet supplied and the habit of eating between meals forbidden. Undue excitement, mental worry or anything that may divert the vital forces from the great work they are performing in the development of a perfect woman should be jealously guarded from the pubescent girl, as this short period is perhaps the most important to her future happiness.

Speech as a Factor in the Diagnosis and Prognosis of Backwardness in Children.—Dr. G. Hudson Makuen of Philadelphia said in this paper that speech is a tool of the mind. Children are dependent upon good speech for the normal development of their faculties. The best method of arriving at an approximately correct prognosis in cases of backward children is to apply the speech test, or, in other words, to ascertain by careful study and experiment to what extent the faculty of speech may be improved. It will be found usually that those who are susceptible to training in what may be called the refinements of speech are the ones who gives promise of the best results and that the possibilities for general improvement will be proportional to the capacity for speech development.

Physical Culture in Children; the Objects to be Obtained.—Dr. J. Madison Taylor of Philadelphia read an important paper upon this subject. It should be clearly understood at the outset, he said, what is meant by the term physical culture. Two objects aimed at are, first, to raise the general bodily efficiency of the child as found in the schools by aiding the natural spontaneous processes of growth and development, both mental and physical; and, second, to assist in improving the conditions of those who are found to be below par in any direction and bring them up to the standard for their age and conditions, so that they may progress in the same degree as ordinary individuals. It is essential that all school-children should have the benefit of skilled medical supervision during their growth. Defects in the organs of special sense, notably the eye, ear, and nasopharynx, may be enumerated as some of the causes and must be dealt with by the specialist. Relatively local disorders are capable of producing great functional disorder when the physique is a little below par, whereas, if the general mechanism of the body is good, they cause very little mischief. The first main object of physical culture for children therefore is to teach them to assume right normal attitudes. Physical culture teachers are usually neither physicians nor physiologists and often not good observers. A simple rule which can involve little error is to let the shoulders alone, free from tension, but keep the back straight and hold the chest as far up as possible and keep the abdomen held in. Then the arms and shoulders are free from constraint and can be moved in any direction. Almost the most important factor is the position of the pelvis which should be maintained as nearly as possible at a level. The subject of breathing is one about which many fallacies are taught. The diaphragm is a muscle of unrecognized importance and is capable of high training and development, just as are the muscles of the arms and legs. The object in right breathing is to obtain the fullest degree of elasticity of the thorax and the greatest degree of freedom.

Discussion on Prolonged Intubation.—Dr. Shurly of Detroit referred to 240 cases of diphtheria with a mortality of 60. Of this number 8 were intubated. Prolonged intubation may be classified as those cases in which the tube remains in position more than six days, ordinarily it should be removed on the fourth day. In these cases 3,000 units of antitoxin is always given immediately. Of the

eight cases intubated all recovered except one. The causes of bad results are usually traumatism or cicatricial bands. Plated tubes should not be used. Dr. Golden uses the suprarenal glands wherever there is edema.

Dr. I. A. Abt thinks the sooner the tube can be taken out the better it is for the child. It should be removed every morning, to allow it to remain in continuously causes edema, trauma, etc. His custom is to remove it in twenty-four hours if possible. There are cases in which a tube cannot be introduced into the larynx. This may sometimes be due to the fact that all of the tubes sold at the shops are not properly made.

Prevention of Pulmonary Tuberculosis in Predisposed Children.—Dr. John A. Robison read this paper. Before the discovery of the bacillus hereditary tuberculosis was supposed to be of great importance, but in the light of modern scientific inquiry infection has supplanted heredity. Direct transmission is extremely rare. Cases of tuberculosis occurring during childhood are in nearly all instances due to direct infection, so many statisticians claim, though an equal consideration of the two factors heredity and the bacillus I think must be maintained. Healthy individuals possess certain degrees of immunity to tuberculosis, as well as other infectious diseases, and this immunity is transmitted to the offspring. If one parent is tuberculous the immunity is weakened. If both parents are tuberculous, the immunity is lessened to a greater degree and there is engrafted on the progeny a cellular nutritional weakness. Children of tuberculous parents are easily effected both directly and indirectly. Preventive treatment should commence with the ancestors. The education of the people would mean the improvement of the coming generations. A child should never be suckled by a tuberculous mother. As the babe grows the diet should contain more fat. Early a state for hydrocarbons should be cultivated. Pure candy in moderation is beneficial to growing children if given after, not between, meals. Children do not drink enough water. It is a great aid to nutrition and acts as a solvent for the effete material in the body. The diet should contain plenty of nitrogenous food. The period of puberty is a critical one. Enforced ignorance of the sexual laws oftentimes allows youth to fall into vices which weaken the cellular and organic structure of their bodies.

Hygiene.—Better hygiene should be secured in our schools. Those with a tendency toward tuberculosis should choose vocations which necessitate them to be out of doors a large part of the time.

Discussion.—Dr. Wood thought that there was a great necessity for the stricter enforcement of laws regarding the marriage of tuberculous people. Dr. Work referred to the supreme importance of proper clothing. People should change their clothing as the weather changes. The two great objects of clothing are equal warmth and equal pressure. Dr. Slagle pointed out that tuberculosis begins in the stomach through the influence of impaired nutrition, with the consequent weakening of the power of resistance.

Protracted Influenzal Pneumonia in Infancy.—Dr. Frank X. Walls of Chicago in his paper stated that infants are in a high degree immuned from influenza. Influenza, however, in infants frequently runs into protracted pneumonia. Nursing children are almost absolutely immuned even though their mothers be seriously stricken with the grip. This immunity is explained by assuming that a potent antitoxin is eliminated in the maternal milk. Infants artificially fed are more susceptible to this disease as well as others. Comby reports a case of grippe in an infant only seventeen days old. Relapses among children are not rare. The symptoms often come on very much like severe gastro-intestinal infections. Later involvement of the respiratory tract occurs. Cough is at first short, but later increases in intensity until it is paroxysmal and continuous similar to that of pertussis. Breathing is rapid and hurried and jerky. More or less coryza is present in most of the cases. Oftentimes inflammation of the middle ear, rupture of the drum and discharge of muco-pus complicates matters. The sputum was examined in all cases and the influenza bacilli were demonstrated. The pneumonia was clinically lobar. The consolidation was slow in development with diffuse bronchitis over the remainder of the lung. The nervous system was signally exempt in the cases coming under the author's notice. The occurrence of an exanthem closely simulating the scarlatina rash, which has been pointed out by many authors, were wanting in the cases under consideration. A diagnosis is sometimes difficult and may easily be confounded with gastro-intestinal infections, ordinary bronchopneumonia, malaria, sepsis or miliary tuberculosis. There is no specific treatment for influenza, but the little patient should be kept quiet and be fed on a nutritious diet suitable to the digestive capabilities of the infant. Nauseating cough mixtures should be avoided. In the event of cardiac or respiratory failure, stimulation should be given as indicated. Cold applications to the skin frequently act in a happy manner in cases of threatened suffocation.

Congenital Malformations.—Dr. Carl Beck of New York presented a very interesting paper on this subject and showed numerous Roetgen-ray photographs to demonstrate the cases reported. The most frequent abnormality of the upper extremity is polydactylism. Congenital deficiencies are naturally hard of correction, but even in such cases surgery is not without resources. Eiselsberg has successfully transplanted, for instance, a toe to

the hand. The Roentgen-rays are manifestly of great value in determining just what are the conditions present.

Membranous Colitis.—Dr. Charles Douglas of Detroit, Mich., said in his paper that membranous colitis occurs most frequently in infants over six months old and less than two years. The stools resemble those of catarrhal enteritis, except in the amount of blood. The only feature which establishes a diagnosis is the appearance of the pseudo-membrane. The severity of the attack and the gravity of the prognosis are in proportion to the amount of mucus passed daily and the length of time it continues. If longer than ten days, the prospect of recovery is not good. It is rarely seen in nursing infants. A microscopic examination of the membrane shows that it is structureless and like a mass of fibrin with no mucus or epithelial cells. The cases presented showed that different bacilli have the power by their irritative qualities and the result of their toxins to form this false membrane on the mucous membrane of the bowels. It is important to recognize that the character of the food is the principal etiologic factor in the beginning of this trouble.

Case of Ureteral Calculus.—Dr. W. W. Keen of Philadelphia said that in this case the calculus was accurately located by the X-rays before the operation was performed. The patient gave the usual history of stone in the ureter and since a recent attack of scarlet fever the paroxyms of pain on the left side have been more frequent and severe. The patient was ten years old. On admission the left side of the abdomen was so painful that a diagnosis was impossible as to location of the stone, though the diagnosis of calculus which had already been made by his physician was perfectly clear. The photograph shows a calculus about one-half the size of the last joint of the little finger in the left ureter a little below the level of the pelvic brim near the bladder. There was considerable difficulty in finding the ureter at the operation as it was imbedded in a hard mass in which the ureter was apparently lost. On examination the stone was found to be dark in color with a reaction for mucin; the shell is of calcium phosphate with a trace of organic matter. On the opening of the ureter about one-quarter of an ounce of urine escaped from the somewhat hydronephrotic kidney. The ureter was packed with iodoform gauze which was removed on the second day and recovery was uneventful.

Discussion.—Dr. C. L. Leonard stated that he had skiagraphed forty-seven cases of stone in the ureter. In most of these cases the stone had been subsequently passed so that it is advisable to wait in most cases unless the stone is large rather than resort to surgery.

Dr. Clifton Scott agreed to the extraordinary value of the X-ray in these cases but thought its value was negative as well as positive. He had operated on a case diagnosed as calculus from the clinical symptoms. The diagnosis seemed perfectly clear, but at the operation it was found to be an endothelial growth and no calculus at all.

Dr. Keen referred to four cases in which he had operated for stone and the stone had not been found.

THIRD DAY—JUNE 6TH.

Diabetes Mellitus in Childhood.—Dr. A. C. Cotton of Chicago reported a very interesting case and called attention to the care with which these cases should be managed. He also pointed out the importance of examining the urine as a part of the routine practice in the diagnosis of the disorders of childhood, so rarely done by the average physician. This perhaps accounts for the seeming rarity of this disorder in young children. That heredity plays a rôle in the predisposition of diabetes, there seems to be little doubt. It seems to the writer that the inclination of many to attribute to the infectious diseases of childhood a casual relation to diabetes is not based upon careful analysis of the evidence and that the glycosuria following such diseases is usually of the transient class. The advanced case of diabetes presents a picture of extreme inanition, emaciation, muscular weakness, dry skin and hair, brittle nails, extreme irritability and extreme sensitiveness to cold, while the urinary symptoms are always present. Furunculosis and other skin lesions rarely appear in children. No routine treatment is applicable to even the majority of cases. At the present time the regulation of the diet seems to be the most important therapeutic measure. The death certificate follows hard upon the diagnosis and the rate of mortality is very high. Elimination is most important in these little patients, while they should be protected from mental strain, shocks, frights, trauma and exposure to inclement weather. The importance of an early diagnosis is evident since success in treatment bears an inverse ratio to the chronicity of the disease.

Dr. C. F. Wahrer emphasized the view that medical treatment had little or no influence on the progress of diabetes, nor could much more be expected from the diet. Both may have some effect in improving things and holding the disease in check, but not in curing it. He could not recall any cases under ten years of age which had recovered.

Albuminuria in Infancy and Childhood.—Dr. John R. Rothmell of Chattanooga, Tenn., read a paper on this subject. Diseases of the kidney in infancy and childhood are chiefly hyperemias and nephritis following the contagious diseases, especially scarlet fever Physiological albuminuria may occur at any period of infancy and childhood. It is most common between the ages of five and fifteen

years and rarely persists, while albumin in the urine does not necessarily indicate serious organic disturbance in the kidney, yet its presence, however slight, commands the utmost watchfulness and care. Albumin is found in the urine after a rich meal, heavy muscular exertion, intense emotion and cold bathing. Even when every other constituent of the urine is normal and functional albuminuria can be differentiated, yet these cases require the most careful consideration, for sooner or later, it may be after months or years have passed, grave lesions may show themselves and we wakes up to the fact that insidious degeneration has been going on in the meantime. It is very important, therefore, to decide whether the albuminuria was simply functional or due to organic change. The prominent symptoms are albumin, high specific gravity and edema. These symptoms are especially found in interstitial and chronic parenchymatous, active hyperemia, catarrhal nephritis, parenchymatous degeneration, passive hyperemia, and acute nephritis. In acute nephritis the amount of albumin depends upon the extent of involvement of the glomeruli, and the amount of casts depends upon the extent of tubules affected. To met the symptoms of edema and ascites and to treat them require some thought concerning the condition of the patient. When uremia exists, diaphoretics, diuretics and cathartics are indicated. Podophyllin, compound jalap powder, and other watery purges may be used. Hot baths and hot packs should be used to cause profuse sweating. Where ascites is extreme tapping is of value. For stimulation teaspoonful doses of infusion of digitalis every four hours for a child of five years old can be given.

Diagnosis of the Backward Child.—Dr. A. W. Wilmarth of Chippewa Falls, Wis., read this paper. He said the estimate of mental strength must be formed from the power of attention, the strength of memory, the efficiency in the method of reasoning which comes to us all instinctively in our early days, and which is known as "common sense."

Plea for the Backward Child.—Dr. C. F. Wahrer of Fort Madison, Iowa, contended in his paper that the very bright child is taken as a standard of comparison instead of the medium child. There is often nothing the matter with the child who is considered slow. His powers are latent and may be really developing in a direction different from the course expected. It is not how early, but how well a given person develops and how effective are the results of his development.

Hygiene of Early School Life.—Dr. J. Noer of Stoughton, Wis., insisted on a more active control of school curricula by physicians and the impossibility of advantageously subjecting all children to the same physical and educational rules.

Discussion.—Dr. Work thought that the cry that came up from all parts of the country proved that there was something radically wrong with the school system and it was not confined to any one locality. The classification of scholars should be according to their intellect and schools should be selected for children which were fitted to their needs. He was particularly impressed with some of the facts brought in Dr. Darnall's paper with regard to the close-fitting and often unhygienic dress of the girl. The two important factors in all dress are equal pressure and equal warmth. Another most important factor is the food of the child which often is badly and carelessly prepared. Regular habits should be taught the child with regard to baths, elimination, eating, etc. Every child should be taught what the organs of the body are, and for what purpose they are intended, and how they should be taken care of and how they may be injured. If a child goes to school without a proper evacuation of the bowels or bladder, he cannot study properly. His intellect is dull and clouded. If a child does not have plenty of water to drink, his mind will be more or less affected from the lack of it. The greatest trouble in most of the schools is not so much with the school or with the child. It is because there are not trained mothers who understand these things themselves to teach the child at home. The duty of the profession is to educate the mothers of the community how to take care of the health of school children.

The officers elected for the ensuing year were as follows: H. H. McClannahan of Omaha, Neb., Chairman, and Frank X. Walls of Chicago, Secretary. The Section chose as their two delegates Dr. A. C. Cotton and Samuel W. Kelley.

BOOK REVIEWS.

Obstetric and Gynecologic Nursing. By Edward P. Davis, A.M., M.D., Professor of Obstetrics in the Jefferson Medical College, Philadelphia, and in the Philadelphia Polyclinic; Obstetrician and Gynecologist to the Philadelphia Hospital, etc. Illustrated. W. B. Saunders & Co., Philadelphia, 1901.

This is a general treatise on the subjects named in the title, although the author declares in the preface that the book was prepared for the training schools of the Jefferson and Philadelphia Hospitals. It is written in the author's characteristic flowing style and is easy reading. The following subjects are briefly elaborated: The Nursing of Normal Pregnancy, Nursing in the Complications of Pregnancy, Descriptions of and Preparations for Labor, The Duties of the Nurse During Labor, The Lying-in Period, The Newborn Child and Its Care, The Accidents of Pregnancy, The Accidents of Labor, Obstetric Surgery, Puerperal Sepsis, Feeding of Infants,

Disorders of Infancy, Gynecologic Nursing in all Its Phases, etc.

A nurse of average intelligence who has had a general training will find the book full of valuable hints and suggestions. The nursing requirements of obstetrical and gynecological operative procedures are clearly elaborated and sufficient description of the anatomy of the parts and technic of the operation is given to enable the nurse to do her work intelligently. In the Appendix will be found a concise and suggestive dietary and a valuable guide to the sterilization of surgical supplies and requirements for operation. The book is invaluable to the obstetric nurse and full of suggestion to the general practitioner. Its influence will certainly tend to raise the standard of aseptic obstetric nursing. The book is attractive and instructive. It should be in the hands of every nurse who is aiming to accomplish the best that the science and art of nursing can suggest.

MANUAL OF DISEASES OF THE EAR. By THOMAS BARR, M.D., Lecturer on Diseases of the Ear, Glasgow University, etc. Third Edition, Revised and Partially Rewritten. With 236 Illustrations. James Maclehose and Sons, Glasgow, 1901.

BARR'S Manual is deservedly called into a third edition. The author has adhered to his original plan and with good reason, making few emendations and these to good purpose. Effective use is made of paragraphs with smaller type for subdivisions which could not well be omitted. "The Treatment of Intracranial and Vascular Complications of Purulent Disease of the Middle Ear" and "Malignant Disease of the Middle Ear" are the subjects of two new chapters, the first of which especially was needful to bring the work in touch with the present state of advancement in brain surgery.

The copious index, the bibliography, the profuseness of illustrations, the black line titles to paragraphs and the handy size and completeness of this manual, make it one of the most available of books on the ear for students and one of the most delightful for casual reading.

A MANUAL OF DISEASES OF THE NOSE AND THROAT. By CORNELIUS GODFREY COAKLEY, A.M., M.D., Clinical Professor of Laryngology in the University and Bellevue Hospital Medical College, New York, etc. Second Edition, Revised and Enlarged. With 103 Engravings. Lea Brothers & Co., 1901.

THIS attractive little manual urges itself into a second edition after the lapse of but two years since the issue of the first. The make-up is excellent in type, leading, illustrations, arrangement, index, etc. The book is not ambitious, making no pretence to fill the place of the several treatises which recent years have given us. It seeks, however, to give in few words the most important salient facts relating to the anatomy of the parts treated and the diagnosis and treatment of their diseases. The new chapter added on Affections in the Respiratory Tract Occurring in the Infectious Diseases partakes of the same elemental character as the remainder of the manual. For students such a work may be all that could be mastered. It is very likely more than the average practitioner is acquainted with in detail. Although it lacks the fulness which one wishes to find even in a manual, it does not lack in freshness and up-to-date methods and facts, and therefore deserves to travel on its merits along with the larger works.

THE ACUTE CONTAGIOUS DISEASES OF CHILDHOOD. By MARCUS P. HATFIELD, A.M., M.D., Professor Emeritus of Diseases of Children, Northwestern University Medical School; Professor of Diseases of Children, Chicago Clinical School; Attending Physician Wesley Hospital. Chicago: G. P. Engelhard & Co., 1901. Pp. 135.

As stated in the preface, this handy volume is a "composite" of the various writers on the subjects discussed, especial pains having been taken to embody the views of later French and German pediatricians. The diseases considered are scarlatina, measles, rötheln, parotitis epidemica, pertussis, varicella, variola and la grippe. A brief space is devoted to the history, occurrence, etiology and prophylaxis, but the main portion of the work dwells on the clinical manifestations and types, the pathology and the treatment. By careful selection from the mass of literature, the author has made this a very readable and concise treatise on these important subjects. His own ideas of treatment are outlined, but are always accompanied by a fair statement of the methods employed by other American and foreign authorities. Under scarlatina Class' cocci are described, but very poorly illustrated; and, among other things, salol is given a prominent place in the treatment of smallpox. The book is handsome enough for even a bibliophile, but for the busy practitioner its uncut edges are only troublesome.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

ESSENTIALS OF THE DISEASES OF CHILDREN. By Dr. W. M. Powell. Third Edition by Dr. A. Hand. Saunders' Question Compends. No. 15. W. B. Saunders & Company, Philadelphia and London.

ATLAS AND EPITOME OF OPHTHALMOSCOPY AND OPHTHALMIC DIAGNOSIS. By Dr. O. Haab. Edited by Dr. G. E. de Schweinitz. 12mo. Illustrated. W. B. Saunders & Company, Philadelphia and London.

ECZEMA; WITH AN ANALYSIS OF EIGHT THOUSAND CASES OF THE DISEASE. By Dr. L. Duncan Bulkley. 12mo. 365 pages. G. P. Putnam's Sons, New York and London.

ATLAS OF THE NERVOUS SYSTEM. By Dr. O. Jacob. Edited by Dr. E. D. Fisher. 12mo. Illustrated. W. B. Saunders & Company, Philadelphia and London.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By Dr. H. Eichhorst. In Two Volumes—8vo, each 600 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

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ORIGINAL ARTICLES.

THE DISEASES OF NUTRITION IN INFANTS.[1]

BY T. M. ROTCH, M.D.,

OF BOSTON;

PROFESSOR OF DISEASES OF CHILDREN IN HARVARD UNIVERSITY.

I HAVE been asked to make a few remarks introductory to the general subject of diseases of nutrition in infancy. There is a group of diseases which occurs so essentially in that early period of development designated empirically as infancy that it may be considered to be characteristic of that period. This group consists of four diseases, infantile atrophy, infantile scorbutus, rachitis, and osteomalacia. Of these diseases infantile atrophy and rachitis are essentially morbid processes occurring during the first two years of life. Infantile scorbutus, also, while having its counterpart in the scorbutus of a later period of development both in its pathology and its treatment, shows in its symptoms and course such a characteristic picture in the middle period of infancy that it may be considered at least as being a special form of scorbutus. While it is necessary to include osteomalacia in the diseases of nutrition of infancy, it, unlike the other three diseases, only occasionally occurs in childhood and is more a disease of adult life. It, however, at times so closely simulates rachitis in its manifestations that it should be included in the group, but it is not a disease characteristic of infancy as is the case with the others.

The etiology of this entire group is very obscure, but each member of the group has its own peculiar manifestations which separate it from the others. When classified under one head they clearly present a picture of a vice of nutrition.

This group of diseases is assuming a more and more important position among the morbid conditions belonging to the early years of life as it becomes evident that it is more far-reaching in its effects and influences to a much greater degree all the diseases of early life than was in former years thought possible. Thus, the prognosis of all those diseases which have a definitely determined etiology is markedly graver where such diseases occur in an infant who is suffering from one of these general disturbances of nutrition, and in this way especially both rachitis and infantile atrophy have come to play a great and important rôle in our study of infantile diseases in general and in their therapeutics. If we consider the high mortality of these diseases when uncomplicated and the greatly increased mortality of all diseases which are complicated by them, and if we recognize that these diseases are closely associated with improper food and hygiene, it becomes evident that the proper therapeutic management of this group of diseases is of very great importance and should demand especial study and care in the feeding during the early months and years of life. There is no doubt that if less attention were paid to the use of drugs in the various non-organic disturbances of the gastro-enteric tract in early infancy and a more enlightened method of feeding were adopted by laymen and physicians, or rather by laymen through the influence of the more intelligent and advanced students of this subject, it would be possible to eradicate this entire group from its place among the various pathological conditions of early life, and thousands of lives would easily be saved where they are now recklessly thrown away. The present conditions are explained by the strong position which theoretical ignorance holds in comparison with that practical and scientific knowledge which exists and is only waiting to be received and to be given a fair trial in order to prove its wisdom and success. The field for purely dietetic treatment is an immense one, and when it has completely supplanted the older methods one of the first results will be to remove the causes of these nutritive diseases, blot them out from our nomenclature and make their pathology a museum relic of the past.

It is, therefore, well worth the time and thought of this Medical Section of the Massachusetts Medical Society to discuss in detail the different members of this protean group of diseases. A thorough knowledge of the diagnosis and treatment of each one of them is of vast importance to us, who, while our mission is to cure, still hold as the highest object and aim of our art the study and practice of prophylaxis.

The three important members of this group of diseases, infantile atrophy, infantile scorbutus, and rachitis, will receive attention later, while the fourth, osteomalacia, can be described in a very few words.

Nothing definite is known about the etiology of osteomalacia and it is simply spoken of in connection with diseases of nutrition on account of its resemblance to rachitis. There is according to Ziegler an absorption of lime

[1] Read before the Massachusetts Medical Society, Boston, June 11, 1901, in introduction to the general subject of "Diseases of Nutrition in Infants."

salt, beginning first at the medullary cavity and proceeding outward. The epiphyses are not notably affected by the continuance of the absorptive process. The cortical bone becomes spongy and decalcified, and in the severest cases there may remain little but marrow and periosteum. The opinion is generally held that in osteomalacia the layer of osteoid tissue results from decalcification, while in rachitis a similar layer represents a new growth deficient in lime salts. The periosteum is likely to be thickened and vascular, and the medulla resembles that in infancy in its gross appearance. Spontaneous fractures and various distortions may occur in osteomalacia and the thorax is flattened laterally.

The treatment of osteomalacia is the same as that of rachitis and is essentially dietetic and hygienic. In regard to the diet, the special age and development of the individual should be considered. Care should also be taken not to force into use the functions of digestion and absorption, but to allow them to develop gradually until at the time indicated by Nature they are ready normally to assume charge of the especial elements of the food which it is their peculiar province to digest and assimilate.

THE MEDICINAL TREATMENT OF SUMMER DIARRHEA.

BY THOMAS S. SOUTHWORTH, M.D.,

OF NEW YORK;

ATTENDING PHYSICIAN TO THE NURSERY AND CHILD'S, MINTURN AND RANDALL'S ISLAND HOSPITALS; PHYSICIAN TO THE DISPENSARY OF THE BABIES' HOSPITAL.

THE acute gastro-intestinal affections among children during the heated term are of three distinct types and differ widely in their variety. They are (*a*) diarrhea caused by inability to digest unsuitable articles of food; (*b*) diarrhea resulting from bacterial action in tainted milk; (*c*) cholera infantum, an intense, fortunately rare, and often fatal type, probably also due to milk infection.

The first class, the digestive diarrheas, if treated early by prompt evacuation of the offending substances and rational feeding tends naturally to recovery. Although milk is not here the source of the trouble, unless the history of the case points conclusively to some other substance as the offender, it is safest as a general rule to withdraw milk for a time. Success in the treatment of the second class, that of milk infection, depends in a large measure upon the promptness with which milk in all its forms is stopped and rigidly excluded from the patient's diet and the promptitude with which any vestiges of its residue are evacuated from the intestines. Those who now recognize this fundamental principle and act upon it rarely lose their patients from summer diarrhea. The argument is a simple one. If bacteria capable of multiplying and producing dangerous toxins are introduced into the body in milk, the latter should be cleared out and no more introduced until the bacterial brood has been exterminated and the system allowed to recover itself. Could all these cases be seen early and so protected, the subject of treatment could be covered in a few words, but this unfortunately is not always possible.

Speaking broadly, milk including breast milk, should be stopped in all cases of summer diarrhea in children under two years of age which begin with vomiting or temperature, for during this period of infancy milk constitutes the basis of their usual food and is most liable to be the source of disturbance. In its place we may give dextrinized barley-water,[1] rice-water, egg-albumin water[2], mutton-broth, beef-juice and a sufficiency of plain boiled water, if there be thirst. One of the first three of these may be offered at the usual hours of feeding, not oftener than every two or three hours, and, unless there be vomiting, in about the quantity previously taken at a meal. In case of vomiting the stomach should be allowed to rest as far as possible for twelve hours.

The truly medicinal treatment should be begun by a thorough action on the intestinal tract to remove decomposing and fermenting materials and all milk residue. So important is this that, even if the bowels have been acted upon by the usual remedies, they should be repeated if any milk has been given since the laxative was administered. Castor oil and calomel in divided doses are useful and have their own individual advantages. Castor oil hurries through the bowel the residue of undigested food and in its passage exerts a soothing influence upon the intestinal mucosa. It is especially valuable when there is much mucus in the stools. Nausea and vomiting, so often a concomitant in these cases at the outset, may, however, almost preclude its use. In such cases calomel in divided doses, gr. $^1/_{10}$ to gr. $^1/_6$, every half hour or hour till one grain or possibly more has been taken, acts distinctly as a stomachic sedative as well as an efficient laxative. Furthermore, calomel acts as a local disinfectant in the bowel and, by stimulating the hepatic secretion, brings out the aid of this most important agent in digestion and absorption. Given in these small doses it is rarely, if ever, necessary to follow it with salines, a custom which grew out of the fear of producing salivation after the administration of massive doses.

In many cases, when the patient is first seen, the process has already existed for some time and marked pyrexia with more or less prostration is present. It is not the diarrhea or the pyrexia which kills; it is the intestinal toxemia. At such a time it is wisest to lose no time by waiting for the action of laxatives given by the

[1] Barley flour, two tablespoonfuls water, one quart; cook fifteen minutes; when cool enough to be tasted add one teaspoonful Cereo, strain, salt and place on ice.

[2] Stir white of one egg into one pint boiled water (cooled), strain, salt and place on ice. May add brandy, one dram.

mouth although these should be administered in every case, but one should at once proceed to remove the source of the toxemia by irrigation of the bowel. Promptly performed this is often a life-saving measure. A large douche-bag or can is filled with saline solution (common salt, 3i to the pint) and a firm all-rubber catheter not smaller but preferably somewhat larger than an ordinary lead pencil is attached. An elevation of three feet is sufficient. The choice of temperature depends upon the degree of pyrexia. If high and the patient is not in collapse the water may be cool and will directly aid in reducing the fever. Otherwise it should be lukewarm. Allowing the fluid to flow while the oiled catheter is introduced distends the tube and also the bowel in advance of the tube, facilitating its introduction without doubling. To be effective the catheter should extend above the relatively long sigmoid flexure into the descending colon. At least four quarts should be used for the irrigation. The excess of fluid will escape in gushes beside the tube. This procedure far from being a severe one is soothing to the child and is often followed by restful sleep. It may be repeated once or twice a day. If there be blood in the stools we may add a teaspoonful of tannic acid to each quart of saline solution. Every practitioner who deals with children in summer should carry a suitable catheter with him to avoid delays. Vomiting which does not cease spontaneously calls for washing out of the stomach with plain boiled water to which, if there be much acidity, bicarbonate of soda may be added in the proportion of a teaspoonful to the quart. If the toxemia be properly controlled by the above measures bismuth subnitrate is the most satisfactory drug for internal use. It should be given in not less than 10-grain doses every hour or two hours. Its efficiency is often enhanced by adding to each dose one grain of salicylate of bismuth which increases the disinfectant power. The late J. Lewis Smith invariably used some one of the varied preparations of the digestive glands in prescribing for this class of cases. The accompanying impairment of stomachic digestion which tends to allow the passage of partially digested food through the pylorus into the intestine renders this suggestion a most rational one, worthy of general adoption.

Increased peristalsis resulting in frequent evacuations is a symptom which should be considered and treated entirely by itself. When it is advisable to check it opium best serves our purpose. It should always be given separately and not combined in mixtures, for if so combined it cannot readily be stopped or reduced in dose without affecting the other medication. Marked pyrexia contra-indicates its use and it should not be given until the bowels have been thoroughly cleared. It has been said that it would be as sensible to seal up a discharging abscess and congratulate ourselves on its cure as to lock up in the bowels the toxic products which nature is striving to throw off. Paregoric, in 10 to 15-drop doses, owes some of its efficiency to the camphor which it contains. Dover's powder, in ¼ to ½-grain doses, is a favorite probably because of the complementary assistance given by the ipecac to the regulation of intestinal secretion.

In the severer type of cases in which the stools are frequent, profuse and watery, where the patient is threatened with collapse and gastric absorption in abeyance or prevented by repeated vomiting, the hypodermic use of morphine sulphate, $^1/_{100}$ grain for a child one year of age, not only acts upon the peristalsis, but steadies and strengthens the pulse. This dose may be repeated if necessary after one hour. With this should be given atropine sulphate, $^1/_{800}$ grain, which also meets important physiological indications. Where the loss of fluid is very great and cannot be made up by ingestion, high saline enemata should be given, or, if not retained, saline hypodermoclysis should be boldly performed. (Salt, 3i, to water, Oj, boiled and strained.) Persistent high temperature, with nervous symptoms, calls for repeated cool sponging or bathing and the use of the ice-cap. Collapse must be met with mustard baths or packs, hot bottles and hypodermatic stimulation.

A tendency to rather frequent stools may persist after the acute symptoms have been overcome and the child is being cautiously led back to a simple dietary. For these Dover's powder is very satisfactory and tannalbin often useful, but even better at times is the following mixture.

℞ Pepsinæ ..... gr. j
Acid hydrochlor. dil..... ♏ jii
Glycerini ..... ♏ jiii
Aquæ menthæ pip..... 3ss
Aquæ ..... 3 j

Sig. In water four times a day after food.

Stimulants are often required during the acute stages. Brandy in 10 to 30-minim doses may be employed well diluted or added to one of the substitute foods. Preparations like liquid peptonoids which combine both nutritious and stimulating properties are most useful in 1-dram doses given with the food at each feeding, and children who receive them bear, with less loss of weight, the simple forms of fluid nourishment which must be continued for forty-eight to seventy-two hours until the acute symptoms have subsided.

In breast-fed infants nursing may usually be resumed at the end of twenty-four hours, the breast being given for half the usual length of time at every second feeding and alternating with the previous bland fluid food. The moment when one may cautiously return to a cow's milk diet must necessarily be determined by the indications in the individual cases. It is safe to say that under the stimulus of parental anxiety this return is often made

too early and too rapidly. When the appearance of the stools, allowing somewhat for the difference in the food ingested, has improved in color and consistency, and the symptoms and general appearance of the child indicate a return of more normal conditions, cow's milk may be cautiously added to one of the previous foods.

At first it is wisest not to exceed a proportion of a dram to the ounce (1-8), and often with young infants still less. As this is shown by the stools to be digested, a further increase may be made from time to time until after the lapse of several days the child's food approximates its usual proportions. It is most important not to overtax the impaired digestion and to this end we may best allow the child's appetite to remain a little in advance of the strength of the food supplied. Recovery from a sharp attack of summer diarrhea is a slow matter and extreme care should be exercised for ten days or two weeks at least. Some children, moreover, do not again recover their former digestive powers until the advent of cool autumnal weather, and must be most carefully guarded in their diet lest they develop other acute attacks which may lead to an ileocolitis or a condition of chronic intestinal indigestion.

47 West 56th Street.

THE HYGIENIC TREATMENT OF SUMMER DIARRHEA OF INFANTS.

BY HENRY C. HAZEN, M.D.,
OF NEW YORK;
VISITING PHYSICIAN TO THE NEW YORK INFANT ASYLUM.

THE frequent occurrence of summer diarrhea among young children in New York and other large and crowded cities and the high mortality-rate resulting from it are appreciated by a study of the vital statistics of the Board of Health. The reports of country districts show no such increase in the death-rate in spite of similar climatic and barometric conditions. One can readily see from these reports that the child should, if possible, spend the heated term in the rural districts. This is, of course, in the majority of cases out of the question, and I will here suggest some of the hygienic measures which will render the child less liable to contract the destructive disease, or, if acquired, will at least render an attack less severe.

Summer diarrhea has been proved to be of bacterial origin, and it is through the agency of these bacteria and their products, toxins, the growth of which is favored by improper food supply, impure air, and insanitary environments, that so many little ones succumb to it. But, first we must appreciate the fact that many children are rendered susceptible to an acute attack of enteritis by a pre-existing condition of indigestion or of intestinal catarrh. The stools should be examined, and, if necessary, the food modified as indicated. The child should not be given an excessive proportion of fats or proteids, nor should it be fed too often or too abundantly. This latter condition commonly occurs through the anxiety of the mother that the child should thrive. The first indication of rachitis should be noted. In other words, as warm weather approaches, special care should be given to the feeding of the child; thus we may avoid predisposing causes, and should the child be attacked by the disease, the prognosis will naturally be better.

In regard to the food supply, if the child is nursing, and digestion is impaired, the mother's health may demand attention. If the child is bottle-fed, the milk supply should be of the best quality possible. The control and regulation of the sale of milk by the Board of Health has saved many thousands of infants' lives, by giving a fresher and a better milk. Nevertheless, the distant source of the milk supply and the resulting delay in forwarding it necessitate an elapse of from twelve to twenty-four hours before the consumers receive it. With milk at this age, the danger of lactic acid, the multiplication of bacteria, and other fermentative changes may be considerably lessened if the mothers are shown—I mean shown by actual demonstration—how to sterilize it and how to keep it sterile.

The purchase of bottled milk rather than of milk kept in bulk in grocery stores is most desirable, and I never fail to insist upon this among the poorer families, where it is the rule rather than the exception to patronize the corner grocery. We must show that the food for artificially-fed babies should be prepared with the closest attention to directions; that the bottles and nipples, and all utensils used in preparing the food, should be selected with care and kept scrupulously clean. The only nipple that should be used is one that fits over the neck of the bottle—no connecting rubber tubing is permissible. After use the nipple and bottle should be put into water to soak, and then boiled in a solution of bicarbonate of soda. An ample supply of both bottles and nipples should be kept on hand, to allow sufficient time for this process.

The food should be given at regular intervals. It is well for the child to be allowed to drink frequently of cool water that has been boiled. Often a child cries when it is thirsty, and the mother believing it to be hungry gives it food and thus overfeeds it. If the child does not vomit the surplus food, it may collect in the intestines, cause irritation, and produce the diarrhea.

The potency of unhygienic conditions as a joint factor in producing this summer diarrhea, is also entitled to our careful consideration

in the treatment of each patient. Many suggestions can be made as to the sanitary environments, which will contribute to the welfare of the child. The room should be selected so that at some period during the day, it is exposed to the beneficient effects of the sun, and we must see that it is kept perfectly clean and well aired, and its furnishings as well.

Only those who are in attendance on the child should be permitted to remain in the room. Often in visiting among the poorer classes, we will find the sick room filled with neighbors and friends, and it will be close and foul smelling from the overcrowding. Absolute quiet is essential. We know how often a loud or startling noise will cause a convulsion in a weakened child.

All garbage and refuse should be immediately disposed of, and it should not be allowed to collect in heaps out-of-doors, where it so readily decomposes in hot weather. The effluvia from this alone not infrequently causes diarrhea in young children. Should we notice noxious odors for which we can not account, we should have the plumbing inspected and active search instituted.

The little patient should be placed on a comfortable mattress—not, as so often seen, on a hot pillow in its carriage. The clothing should consist only of a light, *white,* loosely woven, woolen shirt, a loose, light robe, and diaper. Socks are not advisable. The lower extremities and feet, in severe cases, may demand artificial heat. The napkins must be immediately changed when soiled, and washed, boiled, and thoroughly dried before used again. All superfluous clothing must be removed from the vicinity of the child. The sheets and bed coverings should be changed and aired frequently.

I believe that the use of water internally and externally is far too often neglected. A bath by tub or sponge, with use of a good soap, given daily, is essential not for cleanliness alone, but to aid diaphoresis. Bathing, by sponge, at intervals during the day refreshes the child and may supply to a slight degree the great loss of water caused by the evacuations.

The facilities that New York and some other cities offer for various long and short trips upon the water afford great assistance to the physician in his treatment. Many cases that have seemed desperate have recovered by removal from the city by water. The daily excursions of St. John's Guild have saved and prolonged many lives. The recreation piers recently built by the city offer advantages that are not to be neglected. We should also utilize the many parks, where the child may be carried for a portion of the day, and given a substitute, though perhaps a poor one, for the country.

66 West 56th Street.

AFTER TREATMENT OF SUMMER DIARRHEA OF INFANTS AND CHILDREN.

BY WILLIAM M. TAYLOR, B.S. M.D.,
OF LA GRANGE, KY.;
LATE RESIDENT PHYSICIAN IN THE NEW YORK INFANT ASYLUM.

IT is difficult to lay down any fixed rule by which we may be guided in the return to a more ample diet after the acute symptoms of an attack of summer diarrhea have subsided. It is best to be guided by the desire for food, the condition of the intestinal tract, as shown by the number and character of the stools, disappearance of abdominal tenderness and tympanites. The character should be ascertained by the personal attention given by the physician to the passages, for one can never gain an accurate idea of the true condition without investigating as to the color, consistency, the presence of mucus, curds and undigested particles of food. It is absolutely necessary that we ascertain whether the derangement be an enteritis or colitis, for in the former condition as evidenced by the thin, watery, yellow or greenish passages, we must withhold food; but in the latter, as shown by more consistent and mucosanguineous stools, we may give an easily digested diet, carefully avoiding an excess of sugars and fats, thus preventing sour acid stools which aggravate this condition.

A patient can not be safely considered and treated as convalescent from summer diarrhea until there has been an improvement in the character and number of stools and a disappearance of the abdominal tenderness, tympanites and fever. With the subsidence of these symptoms comes a brighter facial expression and a desire for food is shown. But we can not be guided entirely by the absence of these acute symptoms. Not until this condition has continued for several days or a week, with the patient on a light diet, showing that the alimentary tract has resumed its working capacity may we venture on a radical increase in the diet. Violations of this precaution we often see illustrated in cases suffering from relapses, due to a too early feeding which may not have been contra-indicated as much by the immediate symptoms present as by the fact that the system was just reacting from the wear and tear of the recent disturbance and was yet unable to undertake the full performance of its digestive and assimilative functions. The question of properly deferring a return to normal diet often taxes the ingenuity and patience of the physician.

The after-treatment of this condition is essentially hygienic and dietetic. Even after all immediate symptoms have subsided it becomes a serious question as to what food shall be used. Of the various kinds of prepared foods, I think the most satisfactory is the pure modified cow's milk, using as a diluent, barley-water previously dextrinized by a diastase or

maltine. By beginning with a percentage milk, a food that will agree with the child is almost invariably attainable. The tendency is to begin with too high a percentage, for it is noticeable in changing the diet of any child that its digestion will be disturbed at the first feedings by an amount which will later be taken without the slightest ill effects. A good plan is as follows: Decide upon the number of feedings, amount of milk, sugar, cream and diluent to be taken by the child. As, for example, we would take three ounces of whole milk, one dram each of sugar and cream and three ounces of barley-gruel. Seven feedings of this amount and proportion may be given in twenty-four hours. To prepare the barley-gruel, add two full tablespoonfuls of barley-flour to one quart of water and boil for fifteen or twenty minutes; to this is then added two teaspoonfuls of Cereo, or dextrinize the barley-water with any other reliable preparation on the market. The diastase partially digests the starch of the barley-water causing it to form with the milk a much looser and softer coagulum. This is shown by actual experiment in the laboratory and also in the curdled vomitus of children taking milk thus modified, the curds being softer and less tenacious than the firm, ropy curds which are almost invariably present when such diluents are used without diastase. Wheat or oatmeal flour may be used instead of the barley flour in making the gruel, though from my experience I favor the latter. This is a simple method of preparation and one in which the proportions may be easily modified. Any mother may be instructed in its preparation so that there will be little chance for error.

If the above treatment fails, kumyss in my estimation stands next. The dislike for kumyss manifested by some is usually overcome after the first few feedings, though it is sometimes more readily taken if one part of water be added to four parts of kumyss. I have seen patients with whom it seemed that all else had failed, begin to improve immediately when put on this. It is especially well taken during the summer months, having a cool, pleasant taste and a fondness for it is soon developed. Beef-juice given three times daily is a most valuable aid in the condition under consideration, seldom, if ever, causing intestinal disturbance and being easily assimilated. This should be expressed from fresh, lean beef daily, thus having it perfectly sweet and fresh. A good method for giving it is one dram to an ounce of barley-water.

In the dietetic treatment during this stage, milk of course, should form the principal factor, but children of two or three years of age will not always submit to a milk diet, nor is it best to keep them on it. They may have in addition beef, mutton, or chicken-broth from which the fat has been carefully removed. Finely chopped or scraped rare roast beef is also a valuable addition. However, we should not rely on these broths to take the place of milk for any length of time, since upon them alone the child invariably loses ground, but they are unquestionably of value in supplementing the milk diet. Dry toast or zweibach seems the safest and best form of farinaceous food to begin with in children who are accustomed to a mixed diet, but at first a liquid diastase should be administered to aid the digestion of starch. Some form of pepsin, as the wine or cordial, is of undoubted service in the management of these cases when a mixed diet is begun.

The general condition may be favorably influenced by inunctions of cod-liver oil and they are especially indicated in children whose circulation seems sluggish, with blue skin, cold feet and hands. A most marked improvement is often seen in a short time from this treatment. The cod-liver oil should be warmed and rubbed in by the hand from the head to the feet. This should be continued for half and hour, repeated twice daily, and followed by a warm sponge bath. By the sponging the unpleasant odor is done away with and the comfort of the child enhanced. Aside from the absorption of the fats, the massage has a decidedly stimulating influence.

Cases allowed to run on without being checked early, often mark the beginning stage of serious malnutrition, anemia, chronic enteritis and mucous colitis. The tendency to constipation that sometimes occurs during convalescence is best corrected by the diet, water given freely between feedings, abdominal massage and enemata. As a rule purgatives are to be avoided unless demanded by some other condition, one dose may at times undo the good results which it has taken days or weeks to accomplish. In these cases abdominal massage should be practised five minutes twice daily; it produces surprising results, not only does it stimulate peristalsis and relieve constipation, but favorably influences nutrition. If in older children a laxative is used, fluid extract of cascara is the best and should be given daily in doses of five to eight drops gradually diminished in amount from day to day, and the best time of administration is after the last meal.

Tonics are nearly always indicated and the syrup of ferric iodide seems the best of all forms of iron tonics for children, for it produces fewer unpleasant effect than any other. It should be given in from two- to five-minim doses to a child of two years old. The tincture of nux vomica for older children is valuable in these cases of malnutrition with poor appetite and sluggish bowels, being best given after meals in two-minim doses for children of from two to three years of age.

By carefully watching for the symptoms of dentition, the nervous diarrhea so often ac-

companying it may be controlled by early lancing of the gums if swollen and painful, and by the administration of bromide of soda, about four grains every three hours for a child one year old. A cool morning sponge, the greater part of the day spent in the open air and a well-ventilated sleeping room will go far in supplementing the other treatment and in preventing relapses, so common during the summer months. Coupled with pure air comes absolute cleanliness. Careful attention should be given to excoriated buttocks and frequent sponging, change of napkins and powdering go far in preventing this annoying complication. The likelihood of producing an enteritis in one convalescent from a recent attack by sudden cooling of the body should be borne in mind in an effort to get fresh air. For the mucous colitis following this condition, daily high irrigation of the colon with normal saline solution is productive of the better results than are medicinal remedies administered with a view to local action on the colon. The exact amount of solution used is a matter of judgment, but the irrigation should be continued until all particles of mucus are removed.

THE CLINICAL FEATURES AND TREATMENT OF ACUTE BRONCHITIS IN CHILDREN.

BY CHARLES O'DONOVAN, A.M., M.D.,
OF BALTIMORE;
CLINICAL PROFESSOR OF DISEASES OF CHILDREN IN THE BALTIMORE MEDICAL COLLEGE.

BRONCHITIS is such a common disease amongst children that its clinical features should be familiar to every one, yet in many cases it produces such mild symptoms that its presence is readily overlooked. Systematic examination of the lungs of all sick children will reveal in many instances unsuspected bronchitis of varying degrees of intensity, often sufficient in itself to account for illness erroneously diagnosticated because of imperfect examination.

In a child otherwise healthy the most prominent, perhaps the only symptom noticeable will be a cough, not necessarily very severe, but due apparently to some local irritation in the throat or lungs leading to a desire to relieve the irritation or impediment by the expulsive effort of the cough. The fauces and tonsils may or may not be reddened or tinged; if true bronchitis result, as it does so often, from a direct spreading of the inflammatory process from the nasopharynx to the bronchi, then there will probably be turgescence of the fauces as well; but bronchitis may occur also as a primary disease, in which case the fauces will show no coincident irritation. This is a point of some importance as affecting another symptom, fever; for this is found to be more frequent and in greater degree in those cases in which the fauces are also involved than in cases of primary bronchitis. In the latter there may be little or no fever, and but little acceleration of the pulse, as long as the bronchitis affects only the larger tubes and is not very extensive in the matter of area involved. This limit, however, is soon overstepped, and most cases of bronchitis present more or less fever, in addition to the cough, with a corresponding rapidity of pulse-rate, and the fretfulness and irritability that appear in children as the constant accompaniment of fever. This is usually worse as night approaches, the child having been fairly cheerful and happy during the day, having had its morning nap, and played with but trifling discomfort afterward, will become quite fretful later in the day, will cough more frequently, and more harshly, as evening approaches, showing at the same time by its brightened color and hurried pulse that fever is present.

In mild cases the fever may reach 102° F. and the pulse rate run up to 110 or 120. The cough is usually worse early in the night, and may become so troublesome as to render sleep possible only at intervals. After midnight the cough will be less, as the child becomes worn out and sleeps heavily till early in the morning. Changes in the respiration follow deeper extension of the bronchitis which produces interference with the proper aeration of the blood, or a very general dissemination of the disease which produces the same effect: in mild cases the respiration will probably remain unchanged. Both lungs are usually affected at the same time, not necessarily in the corresponding portions of each lung; but the general principle holds that the invasion increases in severity or diminishes in each lung coincidently. In this respect simple bronchitis differs very materially from complicated cases; for should bronchopneumonia develop, a most common and most serious complication, the various spots of more or less circumscribed consolidation occur in different parts of each lung without any apparent coincidence, and one lung may advance toward recovery while the disease is progressing unfavorably in the other. In like manner when the pleura becomes involved in the inflammatory process, as is often the case in deep-seated bronchitis, it may readily be on one side only.

Of the various complications it is not intended to speak, for this paper is to be limited to the subject in hand, which is quite sufficient. Bronchitis in children is a disease having no definite limit. It may not advance beyond the simplest invasion of the largest bronchi, producing some roughening of the respiration with a dryness of the throat and desire to cough, or it may invade the entire area of both lungs, filling them with universal râles, dry and sibilant at first, but becoming moist and bubbling at many points as the small bronchi become loaded with mucus in the later stages of the disease. In the matter of time, there is no definite division between these stages, for they will most likely occur simul-

taneously in different parts of the child's lungs as the areas of congestion or exudation advance and recede with the varying ability of the child to resist the invasion. While there is no fixed limit to it, very much can be done by proper treatment to cut short bronchitis in children at any stage of its course. In this, as in many other diseases, the child shows its remarkable power of resiliency against the depression under which it labors. Whether it is by the elaboration of an antidote to some specific infection which causes the disease; or by a power easily recognized, but described with difficulty, which enables the organism to check the onward progress of disease and rapidly repair the damages inflicted; in either case the child possesses this ability in marked degree, and is enabled to exert it by the assistance of medicines and attention to hygiene and nutrition far more readily and effectually than lies in the power of the adult. For this reason, in children who are beyond the first year of life, uncomplicated bronchitis is rarely fatal. Very young children with general bronchitis and much secretion frequently are overwhelmed by the obstruction and become smothered, as it were, from inability to unload the bronchi. Older children are better prepared for this emergency and cough up quantities of mucus to be swallowed or expectorated according to the age of the child.

The case may have a very grave appearance and may continue for a long time, but if uncomplicated the lungs are usually quite competent to oxygenate the blood, and recovery follows after lapse of more or less time. After severe or prolonged cases of bronchitis in children it is usual to find the lungs emphysematous, the percussion note highly resonant, whistling or cooing dry râles present in various parts of the lungs, the expiration much prolonged, showing a loss of the usual elasticity of the lung. This may persist for days or weeks, according to the severity of the bronchitis or the length of time occupied by the attack, but with care and attention during the child's slow convalescence, it will in time disappear.

As soon as bronchitis is diagnosticated in a child, intelligent treatment must be compelled. No case is without danger, if not of death, at least of a long illness, with a constant fear of complications that are only too likely to result fatally. Younger children have more to dread than older ones, but every case must be cured as soon as possible. In mild cases no medicines are required; regulation of diet, a mild laxative, investigation of the child's clothing both for the day and for night, so as to provide comfortable warmth of surface at each period, and confinement of the child to a sunshiny, well-ventilated apartment, with suitable and equable temperature, will insure its prompt and complete recovery.

It is well to remember, however, that one attack of bronchitis seems to weaken the power of resistance of the child, and that exposure to ordinary conditions should be made carefully and gradually. More extensive or deeper invasion requires much more attention. In addition to the restrictions mentioned above, medicines are required. It is best that the child should be put to bed, as many unavoidable exposures to open doors or windows are thus avoided, and the rest and warmth of the bed are in themselves excellent curative measures. Babies take medicines with difficulty and are best treated by local applications and inhalations. The oiled silk jacket, more or less wadded, and made to fit close to the chest, held in position by being pinned to the napkin, or by tapes passing between the thighs, is of valuable service. Beneath this stimulating liniments, containing turpentine in the required strength, or weak mustard plasters, may be used to produce irritation of the surface, never strong enough to blister the skin. For each application the jacket is opened at the back and is replaced immediately.

Many stimulating inhalations have been proposed to promote free transudation into the bronchi, but none are satisfactory in every case. Frequent inhalation of steam often produces fluidity of the tough bronchial mucus and its ready dislodgment by coughing. This is easily administered by covering the crib with a canopy made of a sheet beneath which the kettle is boiled. The vapor of benzoin has appeared at times to be beneficial, but inhalants are of such varying effect that the long list recommended must be tried to find the one most suited to individual cases. Whatever medicine is given to infants must be easily taken and not apt to destroy the desire of the child for food. Personally, I use very few drugs in such cases, the syr. hypophos. co. in doses suitable to the age of the child being the only expectorant that I try and experience has taught me that it is beneficial. If, in spite of these remedies, the bronchi of the infant are becoming more and more oppressed with mucus, an emetic may be used, tr. ipecac, in dose sufficient to produce emesis, being the best. This is not to be given unless it is actually required, for the practice of making a child vomit every time that it has a severe spell of coughing cannot be condemned too harshly; it is necessary in these severe cases to save the baby's strength in every way, not to deplete and overtax it on slight provocation. Stimulants will be required in proportion to the fever and the manifestly weakened action of the heart; the pulse will be the best guide in this. It has been my custom to use alcohol in all of these cases and I have never seen any harm result; on the contrary, it appears to have a sustaining effect upon the heart that is most desirable, and from it can be obtained all that can be had in this direction. I have never seen any additional benefit in in-

fants from strychnine or other powerful tonics, which could not be obtained from alcohol. It is important to watch the effect of the stimulant, which is given for a specific purpose and should not be given in excess of the quantity required to do what is needed. If cyanosis is developing and the baby becomes more and more obtunded by the deficiently oxygenated blood, it should be frequently changed in position, lying on one side for a short while, then on the other; a wakeful, crying baby is to be preferred to one that becomes lethargic. Indeed, we have good authority for keeping the baby awake by severe measures, such as spanking it, or by successive applications of hot and cold douches to its chest. It is well to remember that a baby possesses latent powers of recuperation that justify, at times, treatment that would appear in an adult to be unnecessarily severe.

The same rules hold good for older children in severe cases. When the fever runs high and respiration is much impeded, confinement to bed and free alcoholic stimulation are called for; the wadded jacket of oiled silk is a great assistance. If there should be also much pain from pleuritic involvement, I am old-fashioned enough to believe that a large flaxseed-meal poultice will give more relief than any other external remedy; this is the result of observation of many cases. Inhalations are quite soothing, or, if desired, can be made to loosen the thick mucus and promote expectoration. Older children take cough syrups better than babies, and are less likely to have their stomachs disordered thereby; such mixtures should contain muriate of ammonia in proportion to the age of the child. Judgment must be used in giving hypnotics; bromide of soda will sometimes suffice to give rest to the excited nervous system, but oftener codeine or heroin will be required. In very severe cases it calls for nice discrimination to decide whether or not the child should be made to sleep, whether danger is most to be apprehended from a fatigued and overtaxed nervous system, or from deficient aeration of the blood. In such cases the inhalation of small quantities of oxygen has proven of value. In prolonged cases, when the heart action is very rapid and the organ becomes fatigued, strychnine, given, by hypodermatic injection, is of great service, The tougher muscle of the youth will respond to such treatment long after the more delicate fibers of the baby would have passed the point of final exhaustion. In every case the disease should be completely cured before the child is allowed full liberty, as imprudence is very likely to start again the process and the bronchitis may so continue for weeks or months. It is not necessary to confine the child strictly to its bed, but in cold weather it should remain indoors until the bronchial catarrh has entirely disappeared. This complete cure can be hastened by judicious feeding, the use of stimulating frictions of the chest, and by the exhibition of cod-liver oil and of small doses of iron and arsenic, if the child is anemic.

EMPYEMA.[1]

BY JOHN A. HARTWELL, M.D.
OF NEW YORK;
ATTENDING SURGEON TO COLORED HOME AND HOSPITAL, NEW YORK.

THE memory of the unsatisfactory outcome of many of the cases of empyema coming under my observation while a hospital interne led me during the past winter to study this subject as it was found in the records of the Presbyterian Hospital of this city, with the view of learning any practical points concerning its occurrence and management.

The condition is one which we, as younger practitioners may be called on frequently to treat and I have therefore thought its consideration may prove of interest and profit. The material at my disposal includes the histories of fifty-two cases, the total number found in the wards of the Hospital named during the eight years ending last July. A recital of the histories in detail could only be a tiresome proceeding and will be omitted from this paper that your attention may be called only to the conclusions drawn.

You will agree with me in asserting that the outcome of many cases of empyema not proving immediately fatal is very unsatisfactory if the picture, so often seen in hospital wards of patients presenting a pus-discharging sinus for weeks and even months after the operation, is called to mind. That such a picture is not seen in every case, nor in the majority of cases, gives the right to hope that a thorough understanding of the disease may confine it to a much smaller minority. With this idea in mind I studied the cases from the following standpoints and endeavored to draw practical conclusions therefrom: Sex, age, family and previous personal history, exciting cause, side and extent of pleura involved, character and quantity of pus with contained bacteria, the treatment instituted, including character of operation, irrigation of cavity immediate and later, the form of drainage, and mortality.

The influence of sex was found to be an etiological factor in the proportion of 38 males to 14 females, a ratio practically the same as in pneumonia which is recognized as the most frequent antecedent of empyema.

In the matter of age there is found a more practical important influence. One-fifth of the cases were in children under five years of age and more than half occurred before the twentieth year. This fact impresses the importance of ever keeping in mind the possibility of an empyema being present in any chest lesion in children and young adults. This importance will be more fully recognized when later we consider the marked advantage of an early diagnosis in just these cases.

[1] Read before the Quiz Society, New York, 1901.

In seven cases a tuberculous family history was present and in five others such a history was doubtful. The influence of this was manifest in only two cases, one patient dying and the other remaining unhealed. The effect of a tuberculous personal history could not be studied, because of the fact that phthisical cases are not admitted to the hospital. Pneumonia was present as the exciting cause in 26 cases and in 3 others it was a probable factor. In 10 cases a simple pleurisy became purulent; in one case sarcoma and in one trauma acted as exciting causes and in one—double sacculated—the infection seemed to be derived from a general sepsis due to pyosalpinx. In 43 cases the whole pleura was involved and in 9 cases the empyema was sacculated. In one case it was general on the left side and sacculated on the right and in one case a double sacculated empyema was present. The latter was interesting in that it resulted in a cure after aspiration and rupture into the bronchi, through which good drainage took place. The constitutional symptoms were as severe in the sacculated cases as in the general, except when the former were very limited in extent.

In 27 cases the right side was affected, in 22 the left, in 2 both sides, and in one the side was not stated. No influence in the course of the disease attaches to the side involved. Especial interest attaches to the study of the cases from the standpoint of the bacteriologist, for it is from him that we may hope for increased accuracy in a differential diagnosis of the varying types of the disease. The time may come when such a diagnosis will so help us that we can effect a cure in certain cases by aspiration or simple incision without rib resection, reserving the latter for fewer cases than at present we dare attempt.

A bacteriological examination was reported in 24 cases in the following proportions: In 12 the pneumococcus was found, in 8 the streptococcus, in 4 both of these, in 2 the staphylococcus, in 1 the tubercle bacillus, in 1 an undetermined coccus, and in 4 no bacteria were found. In 4 cases where pneumonia was the exciting cause no pneumococci were found. Three of these were of long standing when the bacteriological examination was made, one having a phthisis. The fourth, the only case of the kind, was acute after pneumonia. All of the 4 cases in which the pneumococcus and the steptococcus were found associated had a pneumonia as the exciting cause. The pneumococcus was the cause of the most virulent cases, the infection being even more marked than with the streptococcus and the course being more prolonged if a fatal termination did not intervene.

Death occurred in 7 cases in which a bacteriological examination was made and in 5 of these the pneumococcus was found. In one of the remaining 2 sarcoma of the chest-wall was the cause of the empyema and of death and in the other a general pyemia, with empyema only as an incident, caused death. The character of the pus evacuated gave no indication of the contained bacteria except the thin yellowish pus due to tubercle bacilli. A thick, fetid pus often gave no growth on culture media and showed no germ life under the microscope while a "sweet laudable" pus contained pneumococci and streptococci.

With this brief summary of the etiology, general nature and bacteriology of the disease, I will pass on to the more practical question of its management and a consideration of the causes of our failures. Of these a more detailed study will be found interesting: (1) When shall we operate in empyema? (2) Should an anesthetic be used? (3) How shall we operate? (4) What shall be the after-treatment? and (5) why do cases of empyema die?

The answer to the first query, when to operate, admits of but one answer and that is immediately on making the diagnosis of pus in the pleural cavity. Occasionally a case may present itself where an empyema has developed very rapidly consequent to a pneumonia and the latter has so debilitated the patient that the radical operation would be inadvisable at once, a simple aspiration being first performed. But such cases are rare and the records here considered showed that, other things being equal, the earlier an operation was done the more successful was the outcome of the case. The practical bearing of this is summed up in the injunction to make an early diagnosis. If a pneumonia does not terminate according to rule, the possibility of pus being present should be borne in mind.

The choice of an anesthetic seemed to lie with the individual preference of the operator and this preference was for chloroform in 31 cases as against ether in 13, and cocaine in 3, 5 being done without anesthesia. In the administration of the anesthetic, care was taken never to produce profound narcosis, with the idea that the empyema might rupture into a bronchus and, if the laryngeal reflex were abolished, pus might be drawn into the sound lung. There is no mention in the records of any accident occurring from anesthesia nor from the actual operative procedure.

How shall we operate? The answer to this question is given in a decided manner by a careful study of the fifty-two records. It is that the satisfactory termination of an empyema was in direct ratio to the thoroughness of the drainage established—and thorough drainage implies an arrangement by which pus is not allowed to remain pent up in the abscess cavity for even an hour after its formation. In some cases, those of children notably so, this was accomplished by simple incision. In others the resection of pieces of one of two ribs failed to provide it. In general, however, it may be said that in those cases

which were slow to heal and which produced long-continued sepsis, the opening was smaller than in the more favorable cases.

In 15 cases intercostal incision alone was done without resection, with the following results: Deaths, 6; recurrences, 4; cures, 5. Of the 5 cures 2 were in children under five years of age and 2 in patients each with a small sacculated empyema, leaving only one adult general empyema cured by simple incision against 6 ending fatally and 4 recovering. These figures may possibly exaggerate the inadequacy of simple incision, but they are so emphatic that the surgeon must give them serious consideration before deciding on the lesser operation. The fear of risking the greater operation seemed to decide the operator in many of the cases for simple incision. But the histories throughout record practically no shock as attending the rib resection—except in one case of Estlander's operation—and in many cases where the ribs were resected the patients were in a desperate condition prior to the operation.

The following rules seem good ones: In an adult remove two inches of two ribs. In a child remove two inches of one rib or one inch of two ribs, in all cases of general empyema. No distinction should be made between the very recent and the more chronic cases in the amount of rib removed, the former often being as intractable as the latter. The resection should be done subperiosteally. This method prevents hemorrhage and is rather easy of accomplishment than otherwise.

The position of the opening made is an important point. In the cases here studied the operator often made it much higher than was wise, as was afterward demonstrated by the depth of the abscess cavity below the opening as seen from the inside. In one case the peritoneum was opened, the sixth rib in the posterior axillary line being resected. This is a very unusual accident in this position and in this case no harm resulted. In 13 cases the eighth rib was resected, usually in the posterior axillary line, without mishap and in one case the ninth, with successful result. In general a rib below the seventh may be selected with safety. An exploratory needle puncture should be made prior to operation as low as the cavity is believed to extend and, if pus is found, open the pleura at that point. If not found, explore in the space above and so on till the proper point is reached. The repeated punctures are harmless if antiseptically done. The possibility of wounding an abdominal viscus should be borne in mind. The posterior axillary line proves in general the most satisfactory position for the resection.

Having removed the rib and evacuated the pus from the pleural cavity, the next question to confront the surgeon is as to the advisability of washing out the cavity. In only five of the cases here considered was such irrigation employed. The irrigation fluid being Thiersch's solution three times, normal salt solution once, and bichloride solution (1-1,000) once. This number is so limited that no conclusions can be drawn as to the efficiency of the procedure. Certainly there was no untoward result, the precaution being taken to allow the patient to partially recover from anesthesia before irrigating. This is advisable as a number of cases of alarming heart failure have been reported where such precaution was neglected, a danger particularly liable when the left side is involved. If such irrigating is a safe part of the operation there seems no reason to neglect doing it, for on rational grounds it is well to get all the pus possible out of the cavity and to get the pleura as free as possible from infection.

The choice of drain material lies almost entirely in the use of a soft perforated rubber tube, double or single. This answers all the indications and is clean. In cases which refuse to heal as well as seems desirable the substitution of gauze for the tube gives a beneficial result, the irritation by the gauze—plain or iodoform—aiding granulation.

In 22 of the cases irrigation of the abscess cavity was performed sometime in the after-treatment. In a few cases this was done regularly and continuously; in others, only at irregular intervals. The solution used was as a rule normal salt solution, Thiersch's solution, or boric-acid solution. In one or two cases very weak bichloride solution was used and in one week creolin solution.

Although the records are incomplete as to the benefit derived from such irrigations, the repeated study of the histories seem to show that it did good. In no case did it do harm or produce unpleasant symptoms except in that of a phthisical patient where an opening was forced through the pleura into the lung while the cavity was being irrigated and the fluid was expectorated. On rational grounds there seems no reason why such irrigation should not be used when we consider the existence of a large pus-producing cavity which at best is imperfectly drained and is causing in most cases constitutional poisoning. But the fact that it was only used in less than half of the cases here considered, which were treated by a number of different men, shows a general tendency against the treatment. This seems to be due to a fear on the part of the surgeons that such irrigation will produce local and perhaps general damage. These fears are not well founded. If a poisonous antiseptic is used there is not the slightest danger of general poisoning, provided the caution is taken to see that all the fluid that is put in is returned. This can be surely accomplished by a second washing out with non-poisonous solutions. The local damage can not be serious when we consider that the peritoneum may be safely sponged off with a 1-2,000 bichloride solution. Surely a thickened pleura covered with fibrinous exudate is a less delicate membrane than the peritoneum.

In any case of empyema where the discharge is large and the drainage not absolutely perfect and general sepsis is present, irrigation with a bichloride solution, 1-5,000, or carbolic acid, 1-100, is not only a safe procedure, but is one absolutely indicated and sure to result in nothing but good.

Why do cases of empyema die? Of the 52 cases here studied 12 died. Five of these died from causes other than the empyema itself, as sarcoma, general pyemia and tuberculosis. This leaves 47 cases with 7 deaths attributable directly to the empyema, a mortality of 15 per cent. Of these only 2 occurred where prompt treatment was used, the duration of one being four days and of the other five days. The remaining 5 deaths were in patients of very low vitality prior to the empyema or in those in whom the disease was neglected. From these figures it seems that with patients of fair physique, prompt surgical interference ought to bring the mortality of empyema well under 10 per cent. and perhaps as low as 5 per cent. This gives us food for reflection when we find the mortality from all statistics given by various authorities varying from 15 to 20 per cent. or even higher.

Summary.

1. Children are especially liable to empyema following pneumonia. Unless promptly relieved by drainage of pleura the prognosis is bad. With such relief the prognosis is good.

2. Pneumonia caused empyema in 50 per cent. of the cases here considered, and such cases were of severe type.

3. Tuberculous family history exerts little influence on empyema.

4. In about one-sixth of the cases the empyema was sacculated.

5. The pneumococcus was found in 50 per cent. of the cases where examination was made; the streptococcus in 33⅓ per cent.; the staphylococcus in 8 per cent.; the tubercle bacillus in 4 per cent., and no bacterium in 16 per cent. The pneumococcus produced the most virulent infection.

6. Chloroform was the anesthetic of preference. Deep narcosis is contra-indicated, owing to the danger of pus being drawn into the other lung from a ruptured bronchus.

7. In adults with general empyema two inches of the seventh and eighth or eighth and ninth ribs in the posterior axillary line should be resected. In children the same length of the seventh rib. Simple incision, with our present knowledge, is rarely advisable.

8. Operation is indicated as soon as diagnosis is made.

9. Irrigation of the abscess cavity with bichloride solution, 1-5,000, or carbolic acid, 1-100, is indicated, unless drainage is perfect and no sepsis is present. In children the solutions may be weaker.

10. The mortality from the empyema proper was 15 per cent. We may hope to reduce it to one-half that number by earlier and more radical treatment.

SEXUAL NEURASTHENIA IN THE MALE; A PLEA FOR A MORE ACCURATE USE OF THE TERM; TREATMENT OF THE TRUE FORM WITH CITATION OF CASES.

BY RAMON GUITERAS, M.D.,
OF NEW YORK.

NEURASTHENIA, while one of the most distressing conditions that comes under the physician's care, is, nevertheless, so certainly amenable to well-directed treatment that it is difficult to sympathize with the despairing or impatient attitude with which many practitioners regard it.

Oftentimes patients suffering from this trouble have made the rounds of a dozen physicians, failing in each instance to find the sympathetic consideration and the systematic examination and treatment that these cases require if a cure is to be made. It is impossible to frown down, or laugh away as purely imaginary, a condition that has produced so much wretchedness, and so much mental and moral deterioration; a condition that daily increases the population of sanitariums and asylums, and swells the list of suicides.

Whether because of its climate or because of its "strenuous life," New York has come to be regarded as a nursery for neurasthenics; but be that as it may, every physician here in active practice encounters many cases and is fully aware that they tax all the resources at his command. It is not my purpose to take up the subject of neurasthenia as a whole. On the contrary, I shall confine myself to a brief consideration of a special form, *i. e.*, sexual neurasthenia.

This variety differs from the others only in the multiformity of its symptoms, in their relatively greater severity, and in the fact that the chief source of the trouble, whether recognized or not by the patient himself, lies in some part of the genital tract. I say whether recognized or not by the patient himself, because it is necessary to emphasize the fact that this group of neurasthenics is much larger than is generally supposed.

The term is often applied loosely enough to those whose attention has become fixed upon the genital apparatus, either because of a real, or fancied lesion. It should, however, be restricted to those cases of neurasthenia in which a morbid condition of the genital apparatus exists, a condition which is demonstrated to be the source of the systemic disturbance by the fact that its cure is quickly followed by the disappearance of the neurasthenia.

The diseased condition of the genital tract may never have been suspected by the patient, and I feel justified in attempting to place the term sexual neurasthenia upon a purely histopathological rather than a psychopathological foundation, or a vague combination of the two, for the reason

that many apparently incurable cases of neurasthenia are incurable only as long as the real cause of the trouble is undiscovered. To the present lax use of the term sexual neurasthenia is due the fact that the possible existence of a lesion of the genital tract in cases of neurasthenia is generally lost sight of, except in a patient whose mind is centered upon the sexual organs as the source of his trouble.

An accurate use of the term will serve to emphasize the necessity of a thorough examination of the genital tract in every case of neurasthenia as a routine practice before attempting any line of treatment, for, not only does the commonly-accepted definition of the term cause the profession to overlook many real cases of this form of neurasthenia, but, on the other hand, cases are sometimes classed under this head which are not sexual neurasthenia at all, but which during or following some exhausting disease have developed a group of sexual symptoms dependent not upon a local lesion, but upon general systemic exhaustion. In such cases local treatment will not only be useless as a means of curing the disease, but positively harmful; since it will tend to confirm the patient in his belief that the seat of his trouble lies in his genital apparatus, while the failure of the local treatment will add weight to his despair. A careful examination in such a case of the genital tract having failed to reveal a lesion, not only will the assurance of this fact tend to shunt the patient's attention out of a dangerous groove, but the improvement that will follow a general restorative treatment will enhance his confidence in his physician and generally expedite his cure.

For an adequate appreciation of the general systemic disturbance to which a lesion of the genital tract may give rise, it is only necessary to consider the immense importance of the rôle that sexual life plays in the history of the individual and of the race, and to realize the relative richness of the vascular supply of the sexual organs and of their innervation from both the central and the sympathetic system.

It is not necessary to go into the anatomical and physiological relationship between this and the other great centers of reflex activity. Any attempt to do this would transcend the limits of a short paper, and would be merely covering the same ground that has been ably worked over by others. Suffice it to say that even a brief study of the facts will serve to destroy any illusion as to a limit in the number and variety of reflex disturbances that may arise from a disease of the genital tract. Nor is the amount of reflex disturbance any indication of the extent of the disease, or of its location.

Writers on the subject who have made an attempt to place the etiology of the disease upon a purely physical basis, have agreed in attributing the principal rôle in the causation to affections of the prostate, seminal vesicles and the spermatic cord. Although a few of the later observers admit that a lesion of the urethra may at times give rise to neurasthenia, I am convinced from my own experience that they have not given this fact the prominence that it deserves.

I have seen patients presenting various neurasthenic symptoms, some of them of the graver type, who were found to have nothing the matter with their genital tract other than a stricture or a patch of granulation tissue, or a denuded area of the urethra, and a proof that this condition was the source of the whole trouble was afforded by the disappearance of the neurasthenia after the cure of the local lesion. I will confess that the result in the first case was somewhat of a surprise to me, and not until the experience had been repeated, not once but several times, was I led to appreciate the full extent of the importance of lesions of the urethral canal in the causation of neurasthenia. These cases included not only those in which there was a distinctly sexual type of neurasthenia, but some in which the sexual element played very little part. There was, as a rule, in these latter cases a recognition by the patient of the fact that the urethra was not in an entirely healthy condition, but this was not regarded by him as an adequate cause of the depression,the dispersion of attention and the lowering of mental and bodily tone from which he was suffering, but rather as perhaps one of many contributing factors.

Before passing in review a few cases that may serve to illustrate some of the points I have tried to make, it would be well, perhaps, to attempt a brief description of the general neurasthenic state.

Neurasthenia may be defined as a chronic, functional, nervous disorder, which is characterized by an excessive weakness, and irritability of the nerve centers, so that the patient is exhausted by slight causes and reacts immoderately to slight irritation. He complains of a feeling of mental depression, he tires quickly, cannot pursue a train of thought or a single line of work for a long time, and has lost all desire for physical or mental exertion. He is more or less indifferent to everything and occupations in which he formerly took an engrossing interest are felt to be a weariness to the flesh. He has a dull, empty feeling in his head. His memory has become defective. He has lost confidence in himself, and dreads going into company. His indecision is shown in a tendency to consult others upon matters in which formerly he was wont to make out his own line of conduct with alacrity. He is fretful, peevish, and easily upset by trifling annoyances. After he has gone to bed he lies awake for hours brooding over his trouble, or passing in review the events of the day, which one and all present themselves in the most unfavorable light, and when sleep finally comes to him he has disquieting dreams and awakes as unrefreshed as if he had been "out on a spree" the night before. He begins to feel he will never get well, that he is going into a decline, that he will become insane, or that he is getting "paresis" or that some other dreadful termination to his illness is bound to oc-

cur, and he often thinks of suicide as the only means of relief. In addition to these physical phenomena he may have hot flashes, with alternate flushings and palings of the face, or creepy chills along the spine and legs. He may have frontal or occipital headaches, usually during the day only, or a feeling of weight on the top of the head, or of constriction about the temples, or a burning spot on the vertex, or a general tenderness of the scalp and weakness or pains in the back of the neck. Sometimes he has dizziness, spots come before the eyes, and there are buzzing or ringing sounds in the head. He may have cold hands and feet and wandering pains in the back, chest or abdomen, or periods of numbness of the limbs. Sometimes pain in the lumbar region is a constant symptom. The special senses are not seriously affected, though in many cases the eyes soon tire from use, the eyeballs ache and the vision becomes blurred. The sense of hearing may be painfully acute. All the reflexes are as a rule exaggerated, though in extreme cases the nerve exhaustion may be so great that they are diminished. Acceleration of the pulse-rate from slight causes is a constant symptom. Pressure on some tender point of the body will raise the count ten to twenty beats where it will remain for one or two minutes (Rumpf's symptom). The respirations are normal in rate, but there is sometimes deficient expansion. The temperature is normal. The composition of the blood is often normal, though there may be more or less anemia. The heart's action is often feeble, encouraging the local congestion. The skin is active, perspiration being profuse and easily induced, and sweating of the palmar surface of the hands and fingers is sometimes a persistent and annoying feature.

The digestive function is often more or less affected, nausea, anorexia, flatulence or constipation, being common symptoms. Rarely there is a persistent mucous enteritis, together with a flabbiness of the belly-wall. There is often more or less relaxation of the ligaments of the stomach and colon with a consequent sagging of these organs, and an increased difficulty in evacuating their contents. There are probably few cases that do not show in the urine or feces some evidence of defective metabolism. In rare cases one finds a transitory albuminuria; a temporary glycosuria is more common, while excess of uric acid or calcium oxalate is the rule rather than the exception.

The sexual function is irritable and weak, and coitus is so unsatisfactory that after each indulgence in it all the symptoms are aggravated. Desire is more or less absent, and the pleasures of normal intercourse are diminished. Even in case the desire is unabated the first orgasm is usually premature, and there is prolonged wait for the second erection, while excessive indulgence may be followed by involuntary emissions. There is sometimes a tingling in, or a numbness of, the penis, or a feeling of wetness and coldness of the genitals. At times there is pain in one or both testicles, or in the scrotum, groin or urethra. Itching of the skin of the scrotum is sometimes a prominent and distressing symptom, especially at night.

In cases in which the sexual symptoms are prominent there may be, in addition to the other physical phenomena enumerated in the beginning, a haunting dread of approaching impotence, or the feeling that the self-abuse or unnatural practices that have been indulged in at some former time are the cause of all the trouble and that the damage can never be repaired. Some feel that their appearance or movements betray their condition and are in consequence thrown into a flutter by a scrutinizing glance and avoid meeting people as much as possible. Rarely, in cases of neurasthenia there is an actual pyschical impotence; more commonly there is a peculiarly capricious sexual preference in regard to person, condition or surroundings. Of course the entire catalogue of symptoms that have been enumerated does not fall to the lot of any one patient; in extreme cases he may have most of them, and even others in addition, while in the mildest he may complain only of lack of vigor, mental or physical or both, with a tendency to hypochondriasis. The bulk of the cases fall between these extremes.

In the current loose classification the term "sexual neurasthenia" has been applied to those cases only that manifest predominant sexual symptoms, while other cases have been called cerebral, gastric or spinal neurasthenia, according as the symptoms seemed to point more or less definitely to an abnormal condition of one of these great centers of reflex activity. The overlapping of the symptoms of these different varieties has added to the confusion of the whole matter and rendered the treatment of neurasthenia uncertain and therefore difficult. Manifestly the final proof of the correctness of a diagnosis is the therapeutic test. Whenever the removal of an actual morbid condition results in the cure of the neurasthenia it is but fair to assume that this lesion was the primary cause of the neurasthenic symptoms. The recognition of the important rôle played by lesions of the genital tract in the production of all sorts of morbid conditions in women has done more than anything else to raise gynecology to the dignity of a specialty. Is it not absurd, then, to allow a faulty classification of neurasthenia to mask the importance of such lesions in the male in the causation of seemingly remote and disproportionate systemic disturbances? By ceasing to limit the application of the term sexual neurasthenia to those cases which show prominent sexual symptoms, and extending it to include all those cases of neurasthenia in which lesions of the genital tract are found to be the source of the trouble, we shall not only be putting the use of the term upon a rational foundation, but we shall tend to secure a proper recognition of the far-reaching systemic effects of genital lesions in the male; and emphasize the necessity of a thorough examination of the genital tract in all cases of neurasthenia.

Treatment.—In the treatment of sexual neuras-

thenia two indications are to be met, namely, the removal of the genital lesion and the eradication of the secondary effects. In mild cases the cure of the genital lesion and the consequent removal of the original source of irritation will suffice for the cure of the neurasthenia, for the patients are in fairly good physical condition. In those of more pronounced types, however, the neurasthenic habit has become more firmly grafted upon the system and measures must be taken to attack the condition directly, either after the removal of the genital lesion, or, better still, while the course of treatment for the lesion itself is being carried out. These measures are in a word those calculated to build up the genital system, and re-establish a healthy mental and moral tone, and the choice of the particular means will depend upon the condition of the patient, his circumstances and environment. In rare cases complete change of surroundings and mode of life is imperative, but certain simple hygienic measures are easily carried out and are within the reach of patients in every walk of life.

Local Treatment.—We should never lose sight of the fact that true sexual neurasthenia is a disease of local causation, however effectively its secondary symptoms by their remoteness or severity may serve to mask the origin of the disease. Measures directed to the cure of the local trouble are, therefore, of prime importance and demand the earliest attention of the practitioner. The source of irritation may be congenital or acquired, and may be situated in any of the external or internal genitals, or at any point along the genital tract from the testis to the meatus. A long, tight prepuce, a partial or complete phimosis, a small meatus or a congenital stricture behind it, a hypospadias or epispadias, or an undescended testicle are among the congenital causes of sexual neurasthenia, while among the acquired causes are chronic urethritis, chronic prostatitis, chronic seminal vesiculitis and chronic epididymitis, to which may be added varicocele, tumors of the prostate, and of the testicle, traumatism of the external genitals and defective innervation due to traumatism, disease or exhaustion of the sexual center in the spinal cord. To these may be added indirect or contributing causes, briefly those productive of pelvic, and especially prostatic, congestion, such as sedentary life, constipation, hemorrhoids, ulcer of the rectum, fissure of the anus, prolonged bicycle riding, masturbation, onanism, and, above all, *coitus reservatus vel interruptus.*

These contributing causes must cease to act if we are to produce distinct and permanent benefit by our local treatment. The congenital causes are usually amenable to operative treatment, and since, with the exception of small meatus, congenital stricture, and redundant prepuce, they do not figure in the cases cited above, we need not take time to consider them at length. It is the acquired causes, therefore, that will receive our attention in the space that remains at our disposal and, first of all, chronic urethritis as being one of the causes that has received least consideration at the hands of previous writers upon this subject.

This condition is characterized by lesions of the urethra, usually contributing tell-tale elements to the urine in the form of shreds, flocculi and coarse or fine flakes, most abundant in the first of the three classes, and usually entirely absent from the third. Microscopic examination of a centrifuged sample shows these flakes, shreds and flocculi, to be composed of pus, epithelium and bacteria, and representing the exudate that has formed upon areas of the urethra which are undergoing a more or less active inflammation. These areas may be situated anywhere along the urethra, but commonly anterior to the membranous portion. The bulb and the inch just in front of it are their favorite sites, and by the aid of the urethroscope they are seen to surround one or more gaping follicles, indicating that although the greater part of the urethra entirely recovered from the original urethritis, the inflammation has persisted in the depths of a few follicles, an ichorous discharge from which upon the adjacent surface of the urethra, together with the local congestion, combine to make it impossible for healthy epithelium to form at that point. There is another sort of hyperemic patch that contributes shreds to the urine, usually of considerable size, which is only secondarily due to a former urethritis. It lies directly behind a stricture, and is the result of the retention of a little urine behind the stricture after each evacuation of the bladder. The bacteria always present in the urine in considerable numbers are here allowed to mutiply and decompose the urine without the hindrance in the way of constant accessions of fresh acid urine which prevents the same results taking place in the bladder. The irritation produced by this broken-down urine is sufficient to keep up an inflammation over the area upon which it rests, an inflammation which will never heal as long as the stricture remains to dam back a little urine after each act of micturition. Inasmuch as the inflammation is due to chemical irritation instead of specific organisms, it does not extend so deeply into the tissues, and in these patches therefore we see no gaping glands.

So far we have spoken only of those patches that contribute elements to the urine. There is another sort of patch seen by the aid of the urethroscope, which is altogether different in appearance, being yellowish-white in color and usually having a granular look. This has its origin in exactly the same way as stricture and represents an area the epithelium of which has been entirely denuded during the acute attack, the submucous layer infiltrated, and upon its surface an exudation of plastic lymph poured out which has subsequently become organized in the form of granulation tissue. These granulation areas, which are in reality a variety of indolent ulcer, receive slow but constant accretions until not only is the thickness of the lost layer of epithelium replaced, but a distinct elevation appears upon the surface

of the urethra, producing a narrowing of the canal depending in a degree upon the rapidity of accretion and the length of time over which the process has extended. A narrowing of the canal produced in this way is much more difficult to cure than an annular stricture, since the soft tissues on the opposite wall of the canal do not offer a sufficient amount of counterpressure upon sounds and dilators. In the case of an annular stricture, on the contrary, the entire ring of granulation tissue is capable of exciting counterpressure upon the dilating instruments, thus presenting the paradox of a morbid condition contributing to its own cure. As a rule, the strictures found in cases of sexual neurasthenia are large ones, for the reason that small strictures give rise to urinary symptoms so severe as to mask the more remote genital trouble and the reflex disturbances resulting therefrom.

These large strictures should be stretched by means of sounds, or better still by the Oberländer or Kohlmann dilator, as they rarely cause traumatism by their introduction and the distention is uniform and gradual. After each dilatation the urethra should be irrigated by the Janet method, using a solution of nitrate of silver beginning at 1 to 16,000 and increasing the strength up to the point of tolerance; the treatment should be given twice a week, sometimes every other day. In the case of a particularly dense stricture that will not yield to the treatment by gradual dilatation, it must be cut by the Otis urethrotome if over 15 F.; if smaller, by the Maisonneuve. A deep stricture of this sort requires the perineal operation on a urethral guide. Post-operative dilatation should be made, followed each time by silver nitrate irrigation of the urethra and bladder. If after the normal caliber of the urethra has been restored inflammatory areas still remain, the treatment is the same as that to be followed in cases in which no stricture is present. This consists in stretching the urethra a degree or two at each session by means of the urethral dilator in order to squeeze out the inflammatory accumulation of the infected follicles, and irrigations of the canal immediately afterward by the Janet method with silver nitrate solution in strength graduated from 1 to 16,000 to 1 in 2,500. In certain stubborn cases topical applications of silver nitrate solution through the endoscope may be found useful, beginning with a grain to the ounce and increasing its strength as high as ten grains. If the meatus is small it should be cut, as a narrow meatus is really a stricture, and not only interferes with the flow of urine, causing congestion of the bladder and prostatic urethra by back pressure, but renders examination and instrumentation of the urethra impossible.

Congenital stricture located in any part of the glans, from the meatus to the beginning of the fossa navicularis, should be treated in the same way by inserting a bistoury into the urethra to a point behind the stricture, and cutting outward and downward toward the frenum, ending the incision externally at a point that will increase the size of the meatus to about 35 F. The subsequent contraction will reduce this to 30-32, which is large enough for all purposes of instrumentation.

Chronic posterior urethritis should be treated locally by means of the deep urethral syringe or by irrigations, the latter being by far the best, as they do not necessitate the irritation and possible traumatism attendant upon the introduction of the instruments into the inflamed posterior canal. By the Janet method of intravesical irrigations, the urethra is ballooned out and the solution brought into contact with the mouths of the follicles of the glands in every part of the inflamed area. Permanganate of potash and nitrate of silver are the best to use in this way. For daily irrigations permanganate is better, used in the strength of 1 to 10,000 to 1 to 13,000, but for less frequent use silver nitrate is to be preferred. Throughout the treatment it is usually well to administer internally an antispasmodic such as codeine, belladonna or hyoscyamus, if there is much irritation, and diluents in the form of one of the alkaline salts or potash or lithia.

The treatment of inflammation of that part of the prostate gland immediately surrounding the urethra may follow the same lines, but deeper involvement of this organ, as well as inflammation of the seminal vesicles, must be treated through the rectum. For this purpose irrigations by means of the rectogenital tube with a normal saline solution at the highest temperature that can be borne is of the utmost value. The irrigations should be made every night before retiring. In addition to these, massage of the prostate should be given every five to seven days.

While receiving massage by the rectum the patient stands with his feet wide apart, his body bent at an angle of 75 degrees, and his hands resting upon some support, as a table, or chair. The surgeon introduces his forefinger into the rectum and massages with a firm even pressure, and slight rotary movement of the finger-tip, beginning at the basis of the vesicles and gradually moving down to the apex of the prostate. A thin finger-cot will keep the finger clean and still allow the surgeon to thoroughly manipulate the parts. It is well to give the urethral irrigation of silver nitrate by the Janet method after each massage.

In place of the simple saline irrigation a hydroelectric douche may be used, an electrode being fitted into the rectogenital tube and connected with the positive pole of the galvanic battery. This has a sedative influence upon the inflamed tissues and is extremely grateful to the patient. After the inflammation and tenderness have left the parts the electrode may be connected with the negative pole of the galvanic battery, or with either pole of the faradic with the purpose of stimulating to absorption.

When varicocele is present the circulation in the cord is impaired and there is increased pressure upon the testis, epididymis and vas. This can be relieved by the open operation, the dilated

pampiniform plexus being excised and the cut ends remaining brought together and sewed. The beneficial result is not immediate, since there is a temporary thickening at the point of union of the severed ends, and not until this mass has been absorbed will the circulation in the cord be completely restored and the mechanical pressure entirely removed.

General Treatment.—Under this heading we must consider the diet, the digestion, regulation of the bowels, exercise and hydrotherapy, the cold sponge-bath being of primary importance. The sedative effect on the general nervous system of the cool sponge-bath is only equalled by the stimulation of the internal secretion, due to a temporary determination of an increased quantity of blood to the interior of the body. Unnecessary as it may appear at first glance, it is of some importance to give the patient minute directions as to the method of taking his sponge-bath.

Patients with an enfeebled circulation, and not accustomed to it, will shrink from the experience at first, for it must be remembered that many people are not accustomed to bathing; in fact the majority of people in the country towns, even the well-to-do, have no bathrooms in their houses. This applies especially to old towns, as in new settlements houses are built with all the modern improvements. Many people living in cities always take warm baths by preference—in fact, I know an athletic trainer in one of the largest athletic institutions in the world, who told me that he cannot take cold baths, and never does. It is well in such cases to direct the patient to stand in a few inches depth of warm water while sponging the body with cool water, and to carry out the process methodically for the first few times in the same order each time, the limbs being sponged first. Beginning, for example, with the left arm, taking next in regular order the right arm, left leg, right leg, neck, chest, abdomen and lower part of back, concluding by squeezing a spongeful held at the back of the neck so that the water will flow down the spine. Before the sponging of each segment of the body, the sponge should be dipped in cool water, and partly wrung out. Rapidity of movement is of prime importance. The entire sponging process should not take over two minutes and the vigorous rub-down following three minutes more. The patient should then dress as quickly as possible, and the eating of a light breakfast should not be delayed more than fifteen or twenty minutes. The brisk exercise has awakened an appetite, and the transient internal congestion has started a flow of gastric juice, which will be felt in these neurasthenics, who often have hyperchlorhydria, as a dull burning in the pit of the stomach if the breakfast is longer delayed.

The dull feeling in the head of which neurasthenics complain, the feeling of having been on a spree the night before, which is usually the result of a passive cerebral congestion, often vanishes under the vasomotor stimulation of the sponge-bath in a manner almost magical, and this is one of the strongest factors in winning over the patient to a faithful carrying out of a procedure from which he at first instinctively recoils. In selected cases of sufficient vigor, sea-bathing, cold douching, the shower-bath, and the plunge may be advised, though in nearly every case the indications are best met by the cold sponge-bath.

Massage, in the hands of an expert and conscientious manipulator, is also good, as by this means the muscles and internal organs receive the same stimulation that would be derived from active exercise, while the central nervous system, having no demand for the expenditure of energy made upon it, receives the benefit of the improved circulation as clear gain. It is almost incredible to what a degree the tone of the body can be reduced in these cases of sexual neurasthenia, in which the symptoms are considered by some simply imaginary.

The diet in every case should be generous, and largely nitrogenous, the sugars and starches being greatly restricted. Rare beef and mutton, with plenty of the green vegetables, oysters, raw or lightly cooked, baked and boiled fish, eggs, milk, curds, koumyss, and fresh butter used in generous quantities, should form the foundation of the regimen. Highly seasoned dishes and sauces, pastry and rich desserts, pickles, pickled meats, or fish, and everything cooked by frying should be religiously shunned. Coffee, tea, and alcohol should be avoided, but water should be drunk freely. Most neurasthenics drink too little water, and it is well to prescribe a certain amount to be taken every day, say one and one-half to two quarts. Habitual tobacco smokers should be instructed to cut down their allowance to one-half, but, preferably, should limit themselves to one after-dinner smoke. There is nothing in the calendar so bad for neurasthenics as cigarette-smoking, especially if the smoke is inhaled.

Another, and by no means less important matter to attend to, is the regulation of the bowels. The cold bath in the morning already spoken of stimulates the secretions and the increased peristalsis which also results will of itself, as a rule, insure a movement. This, in conjunction with the establishment of a regular habit of visiting the toilet immediately before or after breakfast, has frequently served to completely overcome the sluggish, constipated habit so prevalent in this class of neurasthenics. In cases in which these measures are not sufficient of themselves to initiate regularity of the bowels the administration for a short time of fluid extract of cascara, twenty minims night and morning, or, better, fifteen minims, t. i. d., will overcome the inertia and pave the way for the establishment of a periodic evacuation.

The patient's leisure hours should not be allowed to drag for want of quiet, wholesome amusement, and he should be as much in the open air as possible. Exciting and exhausting amusements, of course, prove injurious to those who are already bankrupt in nerve force. An

amount of exercise in the open air carefully regulated so as to fall within the limits of fatigue is another hygienic measure of the greatest importance. For those who have not much leisure, walking from their place of business to their homes is an excellent way of taking open-air exercise. Where the distances are great and fatigue easily brought on, it is well to walk but part of the distance and increase it gradually. By increasing the walking distance a block a day the patient will soon be able to cover quite a distance without much difficulty. More benefit will be derived from walking a few blocks briskly with head erect, shoulders thrown back, and arms swinging freely, than by languidly strolling along any number of blocks. Nothing fatigues so quickly as lolling along in the lackadaisical manner to which the neurasthenic is prone.

For the neurasthenic golf is one of the best forms of exercise, sailing and fishing are also splendid pastimes. Where surroundings are favorable he could not do better than to acquire a mild form of golf-mania. Golf is the valetudinarian's game *par excellence*. A moderate amount of horseback-riding with the use of an appropriate saddle (one for example of the McClellan type used by our cavalry, which obviates the pressure upon the perineum) is a form of exercise that cannot be too highly commended for almost every case of neurasthenia.

For the insomnia of which these patients complain, nothing does so much good as the establishment of regular hours of retiring and rising, the eating of a light supper followed by a few minutes of calisthenic exercise before going to bed. The calisthenics draw blood away from the brain and the light meal eaten before retiring, besides calling a certain amount of blood to the viscera for the process of digestion and thus still further reducing the cerebral hyperemia, supplies an amount of energy in excess of that required for the merely vegetative functions that go on during sleep, and hence affords a distinct addition to the vital resources of the body.

By such simple hygienic rules as those here laid down I have known a man whose weight had remained stationary for five years, but which was twenty-five pounds or more below the normal for his frame, to gain these twenty-five pounds in good, hard flesh within a period of three months.

In some of these cases the patients are so nervous that business has to be abandoned for the time, in which case a change of air and scene is of the greatest benefit. Probably nothing in this line equals a sea voyage for those who are not persistent sufferers from sea-sickness.

In the way of office treatment for the general nerve exhaustion static electricity has a decided value. The manner of its application, however, must receive careful consideration. A weak, nervous, irritable patient will be apt, at first, to regard such a thing as a dreadful ordeal, and steps must be taken to relieve him of his trepidation if we would not have this counteract the beneficial effects of the treatment. For this reason he should be given a chance to get acquainted with the machine before any sudden attempt is made to treat him.

The insulation should be either positive or negative, according to the physical make-up of the patient. The cool breeze from the point electrode produced by grounding the negative pole is adapted to muscular and full-blooded cases, while the warm breeze resulting from grounding the positive pole is the one to be used for the feeble and anemic. The treatment should be given every other day, and the duration of each should be about ten minutes of the electric bath and five minutes of the breeze. The more vigorous local treatment with sparks is desirable only in cases in which some persistently tender point of the body does not yield to the milder measures. The improvement in the patient's condition is often apparent from the start, weak and anemic patients taking on color and weight, and the full-blooded ones showing the sedative effect of the positive electrization in the diminished irritability of the nerve centers, manifested by greater equanimity, diminution of the exaggerated reflexes and the ability to obtain sound and refreshing sleep.

75 West Fifty-fifth Street.

MASTURBATIONAL NEUROSES.

BY WILLIAM C. KRAUSS, M.D.,
BUFFALO, N. Y.

OF late there has been a growing tendency to disregard the effects that masturbation exerts upon the nervous system of individuals in general, without sufficient regard for those who can ill afford such exertions or such excesses. To be sure, all youths do not possess that power of inhibition which permits of a healthy, liberal exercise of this function, and these unfortunates are the living examples which prompt denunciations and protests upon the perniciousness of the habit as a whole.

In one of the latest works on sexual debility by a distinguished and well-known physician, in the chapter on masturbation he has combated the old and time-honored belief that indulgence in this habit is the necessary prelude to both physical and mental degeneration, and, while not glossing over the dangers which may, under certain conditions, result from the habit, he has attempted to point out the folly of the hysterical denunciations which have been heaped upon it by pseudo-philanthropists and ignorant medical men.

In a paper read before one of the county societies of Western New York a short time ago, an intelligent and experienced practitioner defended the habit and championed the cause of those engaged in it.

The upper crust of society and some of our ultra-medical men contend that it is a perfectly innocent and legitimate form of exercise for the amusement and gratification of mankind, rich or poor, young or old, male or female. They claim

for it no statute of limitation, being alike harmless to the nerve-bankrupt as well as to the nerve-plutocrat, to the hereditarily strong as well as to the hereditarily weak. For my part this pastime has but two redeeming features: First, in this age of commercialism it is cheap and within the reach of all; second, from a purely selfish point of view, it helps to fill the coffers of the otherwise needy and struggling physician.

We are entering upon an age of nerve tension and consequently nerve suspension, nerve wear and tear. The acme of physical and mental activity has fallen from the decade extending from the fortieth to the fiftieth year to that extending from the thirtieth to the fortieth. Indeed, one of the great English experts sent to this country to study the secret of America's unparalleled leap into the commercial world found none other than young men at the head of all large industrial enterprises. Thus at an early age an unusual amount of brain activity is demanded from the growing youth.

To prolong the period of boy-life is to prolong the period of *growth*. This is a simple physiological law, and a very obvious one, and, whatever other things may be said in favor of purity, it remains, perhaps, the most weighty. To introduce sensual and sexual habits—and one of the worst of them is self-abuse—at an early age is to arrest growth, both physical and mental. And what is even more it means to arrest the capacity for affection.[1]

It is the duty of the medical men, the priests of the body, and the teachers of the truths of medico-psychology and physiology, to help and teach them by our counsel and our knowledge. We are about the only persons who can help a youth strike a happy medium between blissful but dangerous ignorance and prurient suggestive knowledge. It must *not* for a moment be inferred that every lad once addicted to this habit is a confirmed neurotic, for boys healthily constituted in body, mind, and morals do not tend to come under its influence to any very hurtful extent. But the habit of masturbation in certain other cases acquires a power that is dominating and destructive to body and mind. The causes of this are either an innate morbid strength of the reproductive instinct or much more frequently an innate weakness of the controlling faculties, or a lack of inherent brain stability, or an incapacity of organic repugnance to what is unnatural. Such weaknesses are apt to occur in the children of neurotic families. In such cases the habit becomes deep-rooted, and nothing short of exhaustion will satisfy their depraved appetite. The weaker and more nervous he becomes the more he indulges, till the point of absolute breakdown of body and mind is reached. It seems to get possession of him like an evil spirit, and to dull and paralyze all his better feelings and his natural instincts. The heredity and temperament are no doubt the true explanation of the opposing statements that are confidently made, on the one hand, that this habit seldom does much permanent harm, and, on the other, that it is the root of most of the evils of boyhood, and that it ruins the health of every one who has ever indulged very much in it. Like all other habits, it is the one who least can afford it physically and mentally that falls the easy victim.

The special point that I wish to make is that in these cases nerve disease of whatever form acquires a vise-like grasp that taxes the skill and art of the physician to the utmost before yielding.

Within the past few years I have been surprised at the number of such cases coming into the consultation room, often admitting, occasionally denying, the habit. From my experience it seems to have an opposite effect upon the two sexes—dulling the mental and making clumsy the physical exertions of the male—while in the female it quickens and excites the physical and psychical movements. The male is rendered hypoesthetic, the female hyperesthetic. The neurosis resulting from this habit is neurasthenia, the psychosis, hebephrenia.

Since Beard first described neurasthenia many diverse opinions have been expressed concerning the relationship of sexual irregularities to neurasthenia. Gilles de la Tourette, in his little monograph on neurasthenia, following the traditions of Charcot's school, dismisses the question of any sexual causation without discussion. Binswanger,[2] while admiting that nearly all neurasthenic persons acknowledged masturbation at some period, considered it not an important cause of neurasthenia, only differing from coitus by the fact that the opportunities for it are more frequent, and that the sexual disturbances of neurasthenia are, in the majority of cases, secondary. Rohleder, on the other hand, who takes a very grave view of the importance of masturbation, considers that its most serious results are a question of neurasthenia. Krafft-Ebing has declared his opinion that masturbation is a cause of neurasthenia. T. D. Savill[3] regards masturbation as an important causal agent of neurasthenia. Collins and Phillip,[4] in an analysis of 333 cases of neurasthenia, found that 123 cases were apparently due to overwork or masturbation.

Freund concludes that neurasthenia proper can nearly always be traced to excessive masturbation or to some interference with the normal sexual act. This view is confirmed by Gattel's careful study.[5] Gattel investigated 100 consecutive cases of severe functional nervous disorder in the clinic of Prof. Krafft-Ebing at Vienna and found that in every case of neurasthenia in a male (28 in all) there was masturbation, while of the 15 women with neurasthenia only 1 is recorded as not masturbating, and she practised *coitus reservatus*. Irrespective of the particular form of

[1] E. Carpenter. International Journal of Ethics, July, 1899.

[2] Die Pathologie und Therapie der Neurasthenie.
[3] Clinical Lectures on Neurasthenia, 1899, p. 37.
[4] Medical Record, March 25, 1899.
[5] Ueber die Sexuellen Ursachen der Neurasthenia und Augstuenrose, 1898.

the nervous disorder, Gattel found that 18 women out of 42 and 36 men out of 58 acknowledged masturbation.

Taking at random twelve private cases of this habit seen by me within a short time I found four cases of insanity and eight of neurasthenia. Two of the four cases of hebephrenia partially recovered, and the other two, who were persistent masturbators, have shown no improvement and are rapidly sinking into dementia. Of these four cases three occurred in one family, being brothers, with neurotic, high-strung nervous parents. In the two cases partly recovered treatment was long continued and at times discouraging.

Perhaps the most interesting case occurred in a young woman who was a neurasthenic and also afflicted with a general neuritis. Long-continued treatment helped to control the neurasthenic symptoms, but the neuritic pains would not yield to any form of treatment. Another case, occurring in a young lady, was treated carefully for a long period without any satisfactory results. The youngest patient was a precocious lad, aged six years, who showed marked proficiency in this habit, and was evidently a candidate for high neuropathic honors.

In closing, I wish to warn against giving a favorable prognosis in cases of functional nervous diseases with an underlying history of masturbation coupled with a neurotic family history. Cases giving no history of masturbation, which fail to respond to treatment after a sufficient interval, should be most rigidly interrogated, and in many cases the suspicion of masturbation will be verified. It is almost useless to try any form of treatment or to expect to obtain any definite results in the functional neuroses if this habit is not discovered and corrected. If, then, this habit is so widespread among the young; if it tends in suitable cases to undermine the physical and psychical forces; if it renders its devotees almost impregnable to rational scientific treatment, is it not a practice which should be discouraged rather than encouraged, defeated rather than surfeited? My own opinion may differ from others, but from my experience I would rather treat any other form of nervous disease than a case of masturbational neurosis.

MEDICAL PROGRESS.

Fractures of the Leg.—HUSCHENBETT (*Centralbl. f. Chir.*, 1901, No. 24) describes what experience has taught him is a most serviceable splint for the treatment of fractures of the upper and lower parts of the shin. It is based on the theory that the ambulatory treatment is more and more becoming the method of choice among surgeons, especially in the aged among whom mere confinement to bed is disastrous. The details of the splint are that after reduction of the deformity and careful apposition of the fragments a carefully applied plaster dressing is applied from the toe-bases to the upper third of the thigh. After this is dried ordinary heavy-weight hoop-iron is taken and made into a stirrup, with the vertical pieces extending all the way up each side of the lower extremity to the upper edge of the plaster bandage. The iron is cut and an inner and outer hinge is made in it opposite the knee. After bending the iron to make it conform carefully to the leg a water-glass bandage is carefully laid over it and the whole hardened. The knee is then exposed until the patient can produce flexion and extension and the ankle is freed by cutting away all that covers the foot. In this splint the patient walks on the bottom of the stirrup and the thigh receives the weight transmitted to it through iron braces.

Hydrocele.—OHL (*Deutsch. Zeitschr. f. Chir.*, B. 59, 45 and 6, 1901), reports the immediate and remote results in nineteen cases of simple hydrocele operated on by the method suggested by Winkelmann in 1898. Briefly, this consists in opening the sac, evacuating the contents and then wrapping the tunica carefully about the testis and replacing it within the scrotum. The skin is then closed by some of the well-known procedures. Among the series here reported many were followed up by the operator himself and the others by the family physicians. In all it was found that the testicle was mobile, insensitive and in every way normal. The scar-tissue about it was of very moderate extent and did not interfere with any of its features. In many of the cases it took a most careful examination to show how the normal and operated sides differed. The ease and rapidity with which the operation may be done and these very flattering results seem to make the operation the one of choice.

Tonometric Examinations in Cardiac Cases.—Complicated apparatus necessitating special experience is of very little benefit in assisting the ordinary physician to follow the results of treatment, and it would seldom be possible for one to use Gaertner's tonometer which is employed so advantageously by T. SCHOTT (*Med. Rec.*, June 29, 1901) in his Nauheim treatment. By this instrument the differences in blood-pressure in the smaller arteries are easily determined. He has made a large number of experiments with this apparatus and finds that the results are reliable and constant. The action of the Nauheim bath is especially noted, and he finds that after the patient has been in the bath from two to five minutes both the pulse and respiration decrease, but that the blood-pressure constantly rises for a period of from eight to ten minutes. A very decided change is usually seen, unless the condition of the heart is such that the bath treatment is contra-indicated. In several cases where compensation could not be hoped for or in severe cases of myocarditis, the blood-pressure was much diminished and the general condition of the patient impaired.

Mortality after Gall-Stone Operation.—H. KEHR (*Münch. med. Woch.*, June 4, 1901), the well-known specialist, reviews 100 operations for

gall-stones done by him during the last year and concludes that the mortality at the present day is very low if the operation is performed before pathological changes have set in to an advanced degree, but that it is high if such conditions as carcinoma and purulent cholangitis are encountered. Of the 16 patients that were lost, 4 died of cholemic hemorrhages, in 5 the stomach or intestines were involved in the operative procedure and 4 cases were complicated by purulent inflammation and cancer. Only one died as a result of operation, an extremely emaciated woman, sixty-two years of age, who developed pneumonia five days after a cystectomy and drainage of hepatic duct. The mortality was considerably higher among males than females which may be due to many causes; thus, cancer of the pancreas is more frequent in men, they often stand narcosis and manipulation of the peritoneal cavity less well than women and their general condition often is less satisfactory. Pneumonias generally are right-sided and are often embolic or a result of direct infection by way of the lymphatic channels. In conclusion, the author draws a comparison between the medical and surgical treatment of cholelithiasis; the former cures 40 per cent. of cases; the latter, 95-98 per cent.

Typhoid Spondylitis.—A case of typhoid spine is related in detail by A. KUHN (*Münch. med. Woch.*, June 4, 1901). The patient was convalescing from a severe typhoid which had been complicated by thrombosis of the right femoral vein, when, on the eighty-third day of his disease, after having been free from fever for thirty days, pain developed in the left lumbar region. This disappeared after Priessnitz packs, but returned after six days when the patient was allowed to get up for the first time. The spleen was slightly enlarged and friction sounds could be heard over it. Soon the spinous processes of the lumbar vertebræ and the sacrum became tender to percussion and after a little over a month a distinct kyphosis developed in the region, with fever and exaggerated patellar reflexes, but no sensory, bladder, nor rectal disturbances. Convalescence was satisfactory and after six weeks the kyphosis had almost entirely disappeared. The diagnostically important symptoms which this case presented were the vague lumbar pains and tenderness, later more strictly limited to the spine, the distinct swelling over the area and lastly the kyphosis. The kyphosis has a certain resemblance to that of tuberculous spondylitis and one must in these cases always rule out an exacerbation of an old tuberculous process revived by the typhoid fever by the previous history, general condition and examination of the lung. Spinal symptoms, indicating involvement of the cord and of such character as incontinence and retention of urine, disappearance of patellar reflexes, paresis, spasms of the adductors, may occur but often, as in the cited case, are absent.

Tapping in Pleural Effusion.—In an editorial the *Therapeutic Gazette* (June 15, 1901) gives a few remarks upon the rational treatment of pleural effusions. Many of the older physicians still believe in the administration of concentrated saline purges or hydragogue cathartics from the vegetable kingdom, unmindful of the fact that this procedure often fails to remedy the condition owing to the plastic exudate with which the pleura is covered which prevents all absorption. Attention is called to a mistake often made in the drawing off of fluid, namely, the too great hurry with which this small operation is done. Thus, neighboring parts are suddenly rather than gradually relieved of pressure and secondary changes are liable to follow in that the lung may tear itself free from adhesions or circulatory disturbance may occur. In case of pus, free drainage is, of course, indicated, but it may be well to relieve pressure several hours before the operation by preliminary puncture.

Patellar Suture.—BARKER (*Archiv f. klin. Chir.*, B. 63, H. 4) states that in twenty-one cases he has sutured the fragments of the broken patella together in the following manner under both local and general anesthesia. The lower fragment is held by the thumb and forefinger and the joint opened by passing in a knife horizontally with the cutting edge upward toward the long axis of the patellar until that bone is encountered. Through this little hole the fluid and blood within the joint are pressed out. This emptying of the joint is important as decreasing the dangers of sepsis. A specially designed needle is then passed into this opening, behind both fragments and through the tendon to just beneath the skin above the upper piece. Its point is then cut down upon and a wire thread passed through its eye. It is then drawn out of the lower hole leaving the wire free in each incision. The needle is then passed in front of the fragments and receiving the upper end of the wire at the upper hole is withdrawn. The two fragments are now freed of clot and tissue by vigorous rubbing in the hands of an assistant and when opposed are fixed by twisting the wire up. It is then cut off and the stump hidden against the lower fragment. No joint reaction has occurred from its presence.

Pregnancy.—From a study of numerous cases, HERMANN KELLER (*Annales de Gynéc. et d'Obstet.*, May, 1901) finds that the period of accouchement corresponds to menstruation in the diminished activity of the nutritive processes. This period is characterized by a high percentage of nitrogenous matter in the urine, but by diminution in the volume of the urine, so that the total daily urea is low. This change is due to insufficiency of the liver functions, and is most marked in multiparæ. Once established, this hepatic insufficiency makes the woman more susceptible to renal difficulties, and to morbid influence, such as septicemia. The author thus finds new proofs in favor of Pinard's theory of the hepatotoxemia of pregnancy. Rest, milk diet, and the

drinking of water and diuretics facilitate the elimination of these toxic matters and tend to lessen their formation.

Nerve-Stretching in Chronic Ulcer.—Thirty cases of the chronic ulcer of the leg by nerve-stretching are reported by CHIPAULT (*La Méd. Moderne,* June 12, 1901). The technic includes (*a*) stretching of the musculo-cutaneous, internal saphenous, sciatic or external popliteal; (*b*) treatment of the ulcer itself, either by total ablation followed by suture, or curettement with disinfection when ablation and suture are impossible. Cure of the ulcer was effected in 26 cases, in some of which, however, there was a renewal of the trouble after a considerable interval.

Acute Colitis in Children.—It is a remarkable fact that the occurrence of acute colitis, or ileocolitis, in epidemic form is almost unknown, or at any rate unrecorded, in England, says EDMUND CANTLEY (*Lancet,* May 25, 1901). A small epidemic broke out in a London barracks, in rooms opening on to a common staircase. There were 13 families, consisting of 13 women and 30 children. Six children and 3 women were attacked and 4 of the children died. No origin could be found for the epidemic. In each case the onset was sudden, with vomiting, diarrhea and fever. At postmortem the whole large intestine was found to be inflamed and thickened, the inflammation extending up into the ileum. The author thinks irrigation to be of no service in the treatment of these cases, but supports the system and stops the diarrhea and vomiting by internal medication.

Neutral Red as a Stain for Nucleated Red Blood-Cells.—A very simple method for bringing out nucleated red cells is given by A. BETTMANN (*Münch. med. Woch.,* June 11, 1901). A small platelet of elder-pith is saturated with a concentrated aqueous solution of neutral red, a small drop of blood is then placed over it and the platelet then examined in the hanging drop. On viewing under the microscope, at first neither nuclei nor granules of the leucocytes is visible; the erythrocytes are stained a faint brownish-red and their nuclei are the only prominent structure visible, owing to their deep-brown color. The stain is admirably suited to study the changes which occur in the nucleus. This diminishes in size after a few minutes and often becomes star-shaped, and small granules separate and lie free in the protoplasm. After several hours the nuclei become decolorized, but they again become evident upon the addition of more neutral red. If the specimen is prevented from drying and if examination is completed within an hour, there is no danger of confusing the nuclei of the white cells with those of the red. The method is recommended especially for the rapid identification of nucleated erythrocytes.

Cystic Affections of the Breast.—The symptoms of cystic conditions of the breast are varied and many. The enlargement of the axillary glands in malignant disease is held to be more or less pathognomonic of such a condition, but in reality this is not the case, says A. M. SHIELD (*Brit. Med. Jour.,* May 18, 1901). There is scarcely any breast swelling, which exhibits any variation in size that is not cystic. Pain and local tenderness are found with the excessive secretion of fluid and disappear with its exit. Dimpling of the skin over a cyst is very often present, though this is supposed to be another sign of malignancy. In regard to treatment the author is conservative. Use the trocar and cannula in certain selected cases and, having made a diagnosis, the author advises that the tumor be dissected out, with free drainage in after-treatment in order that the blood serum may not be allowed to collect and become infected.

Urinary Calculi.—P. J. FREYER (*Brit. Med. Jour.,* May 25, 1901) gives the following as characteristic symptoms of stone in the bladder: (1) Increased frequency of micturition; (2) pain on micturition; (3) hematuria; (4) sudden stoppage of the flow of urine. The rectum should be examined to find out the condition of the prostate and seminal vesicles and to determine the presence or absence of organic deposits at the base of the bladder. The best method of making a diagnosis is by sounding. One should never use force in this procedure and thus set up traumatism. The author uses the Mercier solid steel sound, commencing with No. 6 English at the shaft and No. 10 at the bulb; in children, No. 2 shaft, No. 5 bulb. Small stones may often be made out with the aspirator and cannula, such as are used in the Bigelow operation. Suprapubic or perineal section may be necessary to make an absolute diagnosis. Pain in the loin and hematuria are the characteristic symptoms of renal calculus. Violent exercise, particular horseback-riding, will bring on a typical seizure. The presence of mucus and pus in the urine is an important symptom. Sometimes the stone can be located by means of the X-ray. Littré's electric cystoscope has in many cases been a most important means of locating calculi in the ureter, especially when they lie in the mouth of the urethral orifice. As a rule, the symptoms of urethral calculi are very obscure and the diagnosis is extremely difficult.

Roentgen-Rays in Warfare.—J. HALL-EDWARDS (*Lancet,* June 22, 1901) claims that his experiment with the Roentgen-rays at the base hospital in searching for bullets, whole or fragmented, and for pieces of shell, demonstrates the wisdom of carrying a very complete outfit as part of the medical equipment of each army hospital. The number of retained missiles is very small when compared with the number of all wounds made by them, simply because this includes a preponderating number of mere soft-part damage. In the number of penetrating bullet and shell wounds, however, whether perforating or not, a much larger percentage shows retained foreign bodies than had ever been supposed. His field of observation was not very large, because in the base hospital the patients have been filtered through from a number of field hospitals, where beyond question many good subjects for radio-

scopic investigation are lost. Out of 193 cases under him for X-ray diagnosis the surprising large number of 65 gave foreign bodies imbedded in the tissue. Of the total wounds 54, with 29 lodged masses, were in the thigh, hip, knee and leg (*i.e.*, between the ankle and the trunk); the hands had 19 total wounds with 8 retained projectiles; the upper extermity, 69 wounds with only 16 bullets found; the chest showed 7 missiles out of 18 wounds and the head 1 in 11 wounds. The most important element, however, was the unvarying precision of the diagnosis in every case.

Consumption and Excretion of Food During Training.—In a careful analysis of all food consumed and all products excreted by four members of the Harvard crew in 1900, M. O. ATWATER and F. G. BENEDICT (*Boston Med. and Surg. Jour.*, June 27, 1901) found that they ate about the same as members of other crews, and that their food had about 50 per cent. more protein and 16 per cent. more energy than that of men at ordinary occupations. They digested their food about as completely as most men, but one notable feature was the fact that the nitrogen excreted by the kidneys and intestines was much less than the total nitrogen of the food. The amount which was apparently stored in the body corresponded to an average of not far from 24 grams of protein per day, if no allowance is made for perspiration. Even after making such an allowance they were undoubtedly storing up considerable nitrogen, and it is questionable whether they are in good physical condition while doing this and also whether they receive the best diet suited for men training for such races.

Alcoholic Neuritis.—E. F. BUZZARD (*Lancet*, June 8, 1901) studied 120 cases of alcoholic neuritis in order to see to what degree alcohol was the sole etiologic factor in this disease. In opposition to most authorities he finds that "spirits," and not beer will more often produce the disease. Ninety-eight of the patients were females and 22 males. The males had an average age of 42.8 years; the females, 38.5 years. The writer thinks that in England alcoholic neuritis is more often found as a sequel to spirit-drinking than in other forms of alcoholism; also that clinical experience and evidence are antagonistic to the idea that arsenic is the cause of alcoholic neuritis. If good statistics were made in Scotland, where the disease is said to be rare, the average would be the same for spirits as in London.

Diacetic Acid in the Urine.—S. LIPLIAWSKY'S (*Deutsche med. Woch.*, No. 10, 1901) modification of Arnold's test eliminates some of the fallacies open to this and to Gerhardt's method. Two solutions are required, one containing 1 per cent. of paramidoacetophenon, made more soluble by the addition of 2 c.c. of concentrated hydrochloric acid, and a 1-per-cent. solution of potassium nitrite. Six c.c. of the first solution and 3 c.c. of the second are mixed with the same amount of urine; a drop of ammonia is added and the whole well shaken. Ten drops to 2 c.c. of this mixture, according to the amount of diacetic acid present, are then added to 10 to 15 c.c. of sulphuric acid, 3 c.c. of chloroform and 2 to 4 drops of ferric chloride. After one-half to one minute of careful agitation the presence of diacetic acid is shown by a violet tinge to the chloroform, while in the absence of this substance it becomes yellowish or reddish. The salicylates or other drugs do not affect the delicacy of the reaction which responds to 1-40,000 of diacetic acid.

Iodide of Potash in Asthma.—SIR W. T. GAIRDNER (*Lancet*, June 8, 1901) says that the use and knowledge of this drug in asthmatic affections are comparatively recent. Neither Cogswell (1837) nor Bouret (1855) made any mention of the employment of this drug in asthmatic affections, although both of them wrote excellent treatises on the therapeutic action of iodine and its compounds. In the late "fifties" Dr. Jephson of Leamington prescribed potassium iodide for the Rev. Dr. Barclay of Currie parish, who had suffered for many years with asthma and bronchitis. The prescription contained as many as fifteen ingredients and Dr. Barclay, to find out which one brought about the desired effect, tried each one separately until he discovered that it was the iodide of potash.

Uncinariosis.—This disease, due to a small thread worm (*Ankylostoma duodenales*), is very common in many of the tropical countries, but it is rarely found in natives of this country. T. A. CLAYTON (*Phil. Med. Jour.*, June 29, 1901) reports a case in a boy, nineteen years old, living in Virginia, who had presented signs of advancing pernicious anemia for several years. His mental development was also affected by the disease, but, strange to say, he had never had any intestinal symptoms. The hemoglobin was 30 per cent. and the red blood-cells 1,577,000. A search in the stools showed the presence of numerous ova of the worm and the administration of thymol caused the discharge of no less than forty-four of these worms.

Localized Vascular Disease.—Several obscure conditions, such as erythromelalgia and Raynaud's disease, have been looked upon as resulting from derangements of parts of the nervous system, probably the vasomotor or trophic centers. Some doubt has been thrown upon this idea recently by several investigators, especially B. SACHS and A. WIENER (*Phil. Med. Jour.*, June 29, 1901). A case of erythromelalgia was reported by them some time ago in which a foot was amputated on account of a large ulcer and a careful microscopical examination showed that nearly all the blood-vessels had become degenerated and sclerosed; they concluded that too much stress had previously been laid upon the nervous origin of these peculiar lesions. Since then they have followed three cases which presented symptoms of severe paroxysmal pains localized in parts of their extremities, sometimes symmetrical, usually confined to the toes or fingers, and finally followed by gangrene of a dry,

white character, necessitating amputation. In all these instances a marked phlebo- and arteriosclerosis was found together with a general neuritis, but it is believed that the vascular lesion was an important concomitant condition and there exists an intimate relation between the disease of the peripheral blood-vessels and many of the trophoneuroses.

THERAPEUTIC HINTS.

Boils.—Of undoubted value are remedies which improve the general condition, such as iron, arsenic, cod-liver oil, hypophosphites, and syrup of calcium lactophosphate. The urine should be examined as diabetes or Bright's disease may be the cause of the furuncle formation. In long-standing cases local irritations should be sought for, even old smoking jackets, sweaters, etc., being sources of infection. A boil may often be aborted by the application of iodine, boric acid, ichthyol, etc. Heitzmann's plaster for this purpose is:

℞ Ac. salicylici..... gm. 8.0 (℥ij)
Emplast. saponis ... 30.0 (℥ij)
Emplast. diachyli .. 15.0 (℥i)
Spread on cloth.

Another useful formula is:

℞ Tinct. iodi..... gm. 4.0 (℥i)
Ac. tannici ..... 2.0 (℥ss)
Pulv. acaciæ ..... 2.0 (℥ss)

Or a few drops of carbolic acid may be injected into the boil. The following ointment may be applied if pus has already formed.. It serves all the purposes of a plaster, allays pain, and does not favor reinfection. It is

℞ Iodoformi ..... gm. 4.0 (℥i)
Ung. vaselin. plumb. 30.0 (℥i)
Spread on lint.

Where boils are multiple, the intervening and surrounding skin should be smeared with equal parts of zinc oxide and vaseline with four per cent. of boric acid. After the boil has burst the cavity must be treated on ordinary surgical principles.—"Reference Handbook of the Medical Sciences."

Fractures of the Olecranon.—The forearm being held in extension, and the fragments adjusted, a compress of absorbent cotton or several thicknesses of soft woollen cloth is applied just above the apex of the process and held by strips of strong adhesive plaster laid on obliquely from above downward, and from below upward, so as to form a figure 8. These strips should not encircle the limb or compress the veins anterior to the joint. Now bandage the extremity from fingers to anterior fold of axilla with a flannel bandage, and then put on a plaster-of-Paris splint. If all goes well leave the splint on for two weeks and if there is still a little separation of the fragments remove and readjust the compress. The splint should be continued for six weeks, being reapplied about every ten days, the limb being bathed and massaged at each readjustment. After six weeks begin gentle passive motion and gradually increase motion and massage. When the tendon of the triceps holds the fragments in apposition a plaster splint is all that is necessary. In adjusting these splints see that the hand is held in supination, so that the olecranon is brought more truly in the axis of the olecranon fossa. It will probably be more comfortable and do no harm if the hand is put in semipronation after two weeks.—W. L. Estes in "The Treatment of Fractures."

La Grippe in Children.—Quinine is said to be deadly to the influenza bacillus, yet many writers oppose its use during any stage of the disease. Despres recommends sprays of chloroform-water, 5 to 1,000. Others advise spraying the nose with normal saline or boric-acid solution, then anointing with mentholated vaseline 1 to 10. Infants can safely nurse mothers with grip, but must not be fed from a spoon or cup used by the mother. The internal treatment consists of

℞ Liq. ammon. acetat. } aa. gm. 60.0 (℥ij)
Vin. mariani }

Sig. A teaspoonful in hot, sweetened water or lemonade every two hours.

For the later muscular aches and pains lactophenin and salol are effective. The pulmonary system may be stimulated with ammonium carbonate and nux vomica in small, frequently repeated doses. Bronchial adenitis requires some such remedy as iodide of iron arythmia and tachycardia require sulphate of sparteine, gm. 0.0075-0.015 (gr. ⅛-¼), and angina pectoris demands nitroglycerin or nitrate of amyl. If paroxysmal tachycardia is to be prevented, the digestion must be carefully looked after. Ear troubles must be treated early.—M. P. Hatfield in "The Acute Contagious Diseases of Childhood."

Foul Breath.—The teeth should be thoroughly cleansed, the gums sponged with myrrh and water, and one of the following allowed to dissolve in the mouth:

℞ Pulv. cinnamomi. } aa gm. 2.0 (℥ss)
Pulv. cardamomi }
Pulv. pimentæ.
Sacch. alb..... 4.0 (℥i)
Mucilag. acaciæ q.s.
Make fifty pills.

The digestive functions should be regulated, bad teeth attended to, and the mouth washed after meals with

℞ Thymoli ..... gm. 0.5 (gr. viij)
Sod. borat. ..... 1.0 (gr. xv)
Aqua, ad. .....c.c. 500.0 (Oj)

—E. E. Walker in "Reference Handbook of the Medical Sciences."

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FORMS OF DYSENTERY.

WE are entering upon the season of the year when sporadic cases and even more or less limited epidemics of dysentery occur in this country. The study of the disease by our army surgeons in the Philippines where dysentery is almost constantly endemic has thrown light on certain disputed points in the etiology and clinical forms of the disease that will be useful to the practitioner at home. The conclusions recently (April, 1901) published by the Chief-Surgeon's Office at Manila show the existence of three forms of dysentery, namely, mild catarrhal dysentery, scarcely more than a passing diarrhea and practically never fatal except in the very old or in patients extremely run down; specific dysentery due to the *bacillus dysenteriæ*, described by Flexner; and amebic dysentery caused by a special form of ameba, very probably a different organism from the common ameba of the intestine. Specific dysentery, the acute infectious form of the disease which produces so much havoc in camps, is probably not confined to the tropics though it is seen most frequently and in its severest form in hot countries. Prof. Osler has suggested that sporadic epidemics of this form of the disease apparently occur even in this country. Our dysenteric outbreaks in jails and camps exhibit at times all the clinical features of tropical dysentery. What the source of the specific microbe is under home conditions is difficult to say. Any observations that would tend to throw light on the method by which the micro-organism preserves its vitality between epidemics would be of great value for the prevention of the disease. The only absolutely sure method of differential diagnosis from other forms of dysentery in these cases is the agglutinative reaction of the blood serum of patients suffering from this form of dysentery upon liquid cultures of the bacillus dysenteriæ.

American observations in the Philippines appear to settle definitely the status of amebic dysentery. There would seem to be no room for reasonable doubt left that certain forms of amebæ are pathogenic for man and productive of dysentery as well as liver abscess. The question has been very much discussed of late years. The pathogenic amebæ are larger in size than amebæ found in the stools of patients ill with other diseases than dysentery or even at times in the passages of perfectly healthy individuals. In the *amœba dysenteriæ* red blood-corpuscles are frequently found enclosed. This phagocytic action as regards red blood-cells is never noted in the smaller non-pathogenic ameba, nor in the amebæ of straw when such are introduced into the system. Neither of these latter organisms produces any effect when injected into cats, while what is recognized as the true *amœba dysenteriæ* never fails to produce dysenteric disturbance in these animals.

The most interesting fact in the investigations in the Philippines is the hope of a curative serum for acute dysentery. This disease is usually very fatal in its ravages and has always been the main cause why armies at all times have lost more men by sickness than by bullets. The diagnostic value of the serum reaction seems to be beyond question. When this agglutinative power can be produced in animals their blood serum will, if injected intraperitoneally at the same time as bowel injections of virulent cultures are made, always protect the animal experimented upon. The work on the curative serum is, however, as yet in a purely tentative stage.

The best treatment according to the experience in the Philippines seems in acute cases to be the limitation of diet and the thorough cleansing of the bowel by large saline enemata. At the be-

ginning of dysentery, in sthenic cases, starvation for several days with a liberal allowance of water to replace that lost by the diarrhea seems to be indicated. The experience in children's summer diarrheas in recent years adds weight to these procedures as the most important therapeutic measures. Stimulants should be used, but only for absolute indications. Contrary to the usual practice the diet, when food is allowed in small quantities, should not consist of concentrated nitrogenous material, meat-juice and the like, but rather of diluted carbohydrates. The various cereal foods in thin broths are best. Somehow these do not seem to furnish the material for microbic growth that nitrogenous material does and, moreover, the acid fermentation to which these substances are especially liable makes the material present in the intestines an eminently unsuitable medium for the growth of bacterial parasites. With reference to amebic dysentery less is known, although here, too, limitation of the diet to the absolute needs of the individual and thorough cleansing of the bowels seem the most successful remedial measures.

THE RED CELLS AS BACTERICIDES.

The problem of the body's total unsusceptibility to non-pathogenic organisms and the destruction that often overtakes even infectious germs, when they have entered the circulation in not overwhelming numbers, seems to have met with a fairly adequate explanation by the theories of the bactericidal powers existing in the normal blood or making their appearance in response to the stimulation afforded by the presence of the invaders. These powers of self-defense have been almost universally attributed to bodies held in solution in the serum and emanating from the leucocytes, though the older idea that the white cells themselves by phagocytosis participated in the struggle has been overthrown by the researches of Buchner, Kolb and Schuster, who found that the bactericidal power of serum whose leucocytes had been destroyed by freezing was undiminished. In one case at least, however, that of the cholera vibrio, the origin of the specific anti-body is thought to be independent of the leucocytes and according to Moxter is to be found in the blood-forming organs, but the red blood-cells have been totally left out of account in the theories concerning the body's means of resistance, perhaps because Buchner's early researches gave such unpromisingly negative results. L. Heim (*Münch. med. Wochenschr.*, April 30, 1901) has lately made public some observations which tend to cast doubt on the propriety of this rigid exclusion of the erythrocyte from the protective cycle. In the earlier experiments the blood was subjected to preliminary taking in order to extract the contents of the cells which it has been supposed furnished nutrient media for the organisms, but it was found that this step was unnecessary and that the same results could be reached by using unchanged blood. If typhoid bacilli in pure bouillon culture are added to fresh defibrinated blood and the mixture is allowed to stand at body temperature, a gradual change in both the red cells and the bacteria takes place which reaches its maximum in about four days. The blood-cells first become pale and biscuit-shaped or take the thorn-apple form; later on they disappear entirely. The bacteria lose the power of motility and become aggregated in clumps which are not so typical, however, as in the true agglutination, and ultimately become swollen and granular.

In the presence of red cells, therefore, a destruction of typhoid bacteria takes place which differs from the ordinary bactericidal action of the serum in the time of its occurrence. What is commonly known under this designation appears during the first twenty-four hours of the presence of the bacteria in the blood, but then disappears and gives way to increased activity of growth, while here we have a second inimical influence which is due to anti-bodies which do not exist preformed in the body, but are manufactured only owing to the stimulus afforded by the vital processes of the micro-organisms, and this property does not become manifest till the power of the alexins has risen to its highest and fallen again.

The former view was that under favorable nutritive conditions, after once the first resistance of the alexins was overcome, the germs multiplied freely in the body till death occurred or a sufficient quantity of the specific antitoxin had been produced to make recovery possible. Buchner has expressed the opinion that all destruction of red blood-cells, as in burns, freezing and other conditions, is dangerous because it involves the setting free of just so much nutritive medium for bacterial growth, and this view is not contradicted but rather supplemented by these later observations. The contents of the erythrocytes may furnish suitable food for the bacteria or at least not prevent their development, but this is true only for a certain length of time after

which the invaders become subjected to degenerative processes. The danger to the body is not over, however, for it is probable that the bodies of the parasites and the substances extracted from them are toxic, while in addition the peril from the decomposing red cells lies not only in the increased growth of germs, but also in the fact that the development of the micro-organisms on broken-down body-cells may be attended by the formation of certain substances hostile to the body.

ETIOLOGY OF CEREBROSPINAL MENINGITIS.

FOR a number of years the bacterial origin of cerebrospinal meningitis has been a well-established fact. In 1885 Lichtenstein found a few cocci in the meninges of a case which had suffered from this disease, the organisms being single or grouped like the gonococcus in the white cells. Two years later Weichselbaum described a diplococcus situated solely within these cells, which, when inoculated into the meninges of dogs produced the lesions of meningitis. This he named the *diplococcus intracellularis meningitidis*. Since 1895, when Jäger demonstrated the presence of this germ in twelve cases, it has usually been observed by others in epidemic cases. For example, Councilman found it in 31 cases out of 35.

These are well-known facts, but the ordinary means of transmission of the disease is still a disputed point. Bacteria may enter the meninges (1) by direct communication from some cavity, such as the middle ear or nose, where they happen to be present; (2) by direct extension from an adjacent inflammatory process, such as mastoiditis or facial erysipelas; (3) from a distant process, such as pneumonia or endocarditis through the blood. Which route is followed by the diplococcus intracellularis is undecided, as is the medium by which it is conveyed.

The possibility that dust is an important vehicle is suggested by Buchanan (*Journal of Hygiene*, April, 1901) who has observed a marked relation between the occurrence of cerebrospinal meningitis and the character of occupation. The fact that it has been recognized chiefly among soldiers in barracks and among prisoners has led to the assumption that it is connected with defects in hygiene of their surroundings. Buchanan, however, has been unable to prove this point, and has been led to regard dust as an important vehicle and hence dusty occupations as a predisposing cause.

Three epidemics occurred at the Central Prison at Bhagalpur, Bengal, from 1897 to 1900, with 47 cases and a mortality of 68 per cent. Before the epidemics there had been in the prison one case in 1889, one in 1890, six in 1891, and one in 1892. Six months intervened between the first and second epidemics, and sixteen between the second and third, with irregular intervals between individual cases. In all epidemics the largest number were attacked in April, the time for hot and dusty wind storms. Eleven hundred persons were employed indoors where they were comparatively free from dust; 700 outside, at a dusty work. Of the 47 cases of the disease 44 were in persons engaged in dusty occupations, *e. g.*, grain husking, or other outdoor labor where they were exposed to dust storms; only 3 were among the 1,100 indoors. During the rainy season only 7 cases occurred, and these were in persons exposed to dust in cleaning grain, etc. No direct source of infection could be proven. There had been no case of cerebrospinal meningitis in the jail for four years before the first of those reported, none were known by other physicians to be in the vicinity, and the first patient had been in the jail for one year when taken ill. The first cases in subsequent outbreaks had been confined at least six weeks. The cases occurred in nearly all the wards. There was no evidence of direct contagion as the attendants were not attacked but the wards were slightly overcrowded.

These observations can hardly be held to prove the writer's point, the influence of dust as a vehicle for the diplococcus intracellularis, although they are extremely suggestive. If the dust out-of-doors was responsible, it seems strange that other natives in the vicinity were not affected, and the author distinctly states that no cases were known to exist among them. It is also noteworthy that during the recent campaigns in Northern China where dust storms were unusually severe, meningitis was very exceptional. Buchanan suggests that the germs may have remained in the dust collected on the roofs of the older wards. Some have found the diplococcus intracellularis alive after desiccation for ninety days; but Councilman, Mallory, and Wright noted that when dried on paper and kept at the room temperature in the dark, these bacteria were dead after from seventy-two to ninety-six hours. Although Buchanan's observations are not conclusive, the idea seems worthy of further investigation in view of the apparently strong evidence furnished by his cases.

ECHOES AND NEWS.

NEW YORK.

Gift to St. Vincent's Hospital.—By the will of the late Mrs. Matilda B. Brown, St. Vincent's Hospital is to receive $2,500.

New Building for the Babies' Hospital.—Plans were filed last Wednesday for the seven and eight-story brick hospital building to be erected at the northeast corner of Lexington Avenue and Fifty-fifth Street for the Babies' Hospital of New York. The building will be 80 by 40.5 feet and will replace those on the same site now owned by the hospital. It is to cost $90,000.

Jury Exonerates Physicians.—The trial of the action of Lucy V. Kellen against Dr. Morris Manges and Dr. Julius Rosenberg, which has been pending in the Supreme Court for the last nine days, resulted last week in a verdict in favor of the defendants. Miss Kellen charged that the physicians operated upon her without her consent, that the operation was unskilful and that they abandoned her after the operation.

The Smallpox Situation in Manhattan.—According to Dr. Dillingham, smallpox is increasing in Manhattan, and may not be stamped out for a year. These epidemics go in cycles. The last heavy outbreak of smallpox was in 1874-5; in 1875 there were 3,397 cases in Manhattan alone, out of a population of 483,788. Now with a population of more than 3,500,000 there were about 700 cases from December 28th to May 10th. May and June showed large increases —457 and 362, respectively, or more than for the preceding five or six months. Hot weather has no effect, directly, on smallpox; only vaccination represses it. There are from 500,000 to 1,000,000 persons in New York City who have neglected this precaution, and until vaccination is more general people might as well make up their minds to endure the scourge.

Summer Health Inspection.—Seventy-five physicians in the employ of the Health Department will begin, on Monday, a systematic, thorough visitation of the tenement-houses in all five boroughs. Ordinarily only fifty are employed in this work, and a start is not made before the middle of July, but the recent excessive heat caused a setting forward of the date. Practically all the tenements are in Manhattan and Brooklyn; those on the East Side will receive the closest attention. The physicians' duties are many and varied. Their mission is to look after any who may be sick and unable to afford a private physician; to advise mothers ignorant of proper methods of caring for children; to abate nuisances, or report them to the proper offices; to distribute tickets for outings given by St. John's Guild, and give away free ice tickets when needed.

New Maternity Hospital Incorporated.—The Manhattan Maternity Hospital and Dispensary has been incorporated to establish and maintain in New York City a maternity hospital, to provide hospital accommodations for women and children, to supply medical attendance for poor women at their own homes, and to maintain a training school for nurses. The directors are Daniel S. Lamont, Cornelius Vanderbilt, Percy R. Payne, Frank L. Polk, Moses Taylor, Harry S. Thompson and William Thorne.

Physicians and Collecting Agency.—A number of Brooklyn physicians sued by a collection agency which they had employed gained a verdict in the Second District Municipal Court, it being decided that a clause they had overlooked in the contract, binding them to pay a forfeit of $25 if they did not turn in the names of thirty debtors within a month, was against public policy.

Typhoid Fever in Brooklyn.—Health reports show that at present typhoid fever is at the low water mark in Brooklyn. Four cases were reported last week. This is a much smaller number than was reported during the corresponding weeks of previous years.

Deaths from Heat Prostration in Brooklyn.—The number of daily deaths from heat prostration during the recent elevation of temperature were 257 out of a total mortality of 930. While these figures undoubtedly include many cases in which other causes were largely contributory, they may be taken as a fair index of the part played by the heat in the greatly increased mortality.

Summer Corps Appointments for Brooklyn.—The following physicians have been appointed by the Health Board of New York to do summer corps work in Brooklyn: Drs. Timothy J. Regan, John A. Shields, James S. Slavin, Edward J. Megaw, Wm. McAnerny, John F. Kent, Christopher D. Kevin, Traverse R. Maxfield, Wm. E. Sullivan, James J. Bowen, Peter J. Curren, E. Rodney Fiske, Charles Ermentrout, John H. O'Neil, John H. Rob, H. P. Peck, Cornelia A. McConville, Novella G. Le Grand, Edson S. Chick. The term of service is two months, the salary being $100 per month. In addition to the regular duties attendant upon the position, they will be assigned to vaccination work as conditions may require.

Free Distribution of Pasteurized Modified Milk for Brooklyn.—The Brooklyn Children's Aid Society, working in co-operation with the Department of Health, began on July 6th the free distribution of Pasteurized modified milk. This milk is intended for sick children between the ages of two and four years and primarily for those suffering from summer diarrheal diseases. Two modifications are made, one being a lime-water and the other a barley-water mixture. These are prepared at the laboratory operated by the Department of Health and distributed from ten stations under the direction of the Aid Society. The distribution will continue until about September 6th and is in line with similar work

that has been carried on in Brooklyn during the past seven summers.

Smallpox in Brooklyn.—Since the advent of the heated term the number of new cases of smallpox occurring weekly in Brooklyn has shown considerable diminution. During the week ending July 6th there were reported and confirmed eight cases as against 38 cases for the week ending June 30th. The disease is evenly distributed throughout the city, nearly all sections being affected. The outlook, however, for the stamping out of the disease in the near future is encouraging.

PHILADELPHIA.

State Asylum to Be Enlarged.—At a recent meeting of the trustees of the State Hospital for the Insane at Norristown, Pa., arrangements were made for the expenditure of the $128,000 recently appropriated by the Legislature. Two buildings will be erected for the nurses at a cost of $100,000. At present the 300 nurses share quarters with the patients. It is reported that because of the overcrowded condition, 200 patients in each department are compelled to sleep on the floor. An infirmary for tuberculous patients will be built at a cost of $5,000. The remaining $2,300 will be used to complete other improvements. In the male department during the past month there were 15 deaths and 33 admissions; in the female department, 6 deaths and 29 admissions.

Mercy Hospital (Pittsburg).—Plans are in preparation for the addition of a surgical and medical ward building to cost $80,000. In addition to this, it is hoped to add a woman's hospital department, the estimated cost of which is $320,000 for the building alone. The preliminary work of the new ward addition will begin in a few days and part of the ground for the site of the woman's hospital has been secured.

Tetanus Following Vaccination.—A verdict of traumatic tetanus following vaccination was recently returned by a jury under Coroner Dugan concerning Maria McGinley, aged six years, whose death was ascribed by the parents to vaccine virus. Dr. David E. Henry, vaccine physician, who vaccinated the child produced samples of the points and said that out of 12,000 cases no bad results were obtained. The autopsy showed injury that might come from other causes than vaccination. On account of the lapse of time between the vaccination and the illness the Coroner's physician believes the virus was not at fault.

Criminal Malpractice.—Mrs. Catharine Bray was recently committed to await the action of the Grand Jury on the charge of causing the death of Mrs. Jennie Johnson. The autopsy showed that blood poisoning, due to a criminal operation, was the cause of death and the jury so found.

Public Baths.—Nearly half a million persons sought relief from the heat last week by resorting to the public baths. They were patronized by 117,452 men, 1,474 women, 331,235 boys and 6,567 girls.

An Emergency Hospital.—A hospital for the treatment of heat cases has been fitted up by Gimbel Brothers in the old Girard Hotel. They have furnished everything that will be needed by the city Medical Emergency Corps, which will have charge of the station. Soon after the doors were opened on July 4th five patients were brought from Independence Square, where the Chinese Minister was delivering the Independence Day oration.

Pittsburg Charity Hospital.—Property was recently purchased in East End, Pittsburg, at a cost of $100,000 for the erection of a new Charity Hospital. The deed will be given in October and the contract for building will then be let. The plans call for a five-story brick and stone building, 300x150 feet. It will contain about 500 rooms and will be one of the most complete and thoroughly equipped hospitals in the State. It will cost $500,000.

Effects of the Recent Extreme Heat.—The great number of prostrations and deaths due to the extreme heat of the last week has been a matter of daily news. The capacity of all the hospitals in the thickly populated portions of the city was overtaxed in caring for the sufferers. Aid was rendered by the Emergency Corps, by the police department, and by private individuals and firms, who, in some instances, furnished automobiles as ambulances to supplement or replace exhausted horses. The Pennsylvania and Episcopal Hospitals had their usual tents erected, and at some other institutions small tents were also put up. Systematic examinations of the blood are being made at short intervals in cases of both heat exhaustion and thermic fever to determine the condition present. Intravenous infusion of saline solution has been used in a number of cases with gratifying results. It was generally preceded by bleeding. In one hospital many of the cases of thermic fever were bled as soon as they were received, the patient being rubbed with ice meanwhile, and afterward put into the bath.

CHICAGO.

Hysterical Amblyopia.—At a recent joint meeting of the Chicago Ophthalmological and Neurological Societies, Dr. W. H. Peck reported four interesting cases of hysterical amblyopia. These cases presented many of the features of the disease. The patients had the characteristic concentric contraction of the fields of vision, also reversal of the color fields, spasm of accommodation, and blepharospasm, also absence of any demonstrable lesion of the fundus, with the ophthalmoscope.

Mydriasis.—Dr. Wm. H. Wilder reported a case of persistent mydriasis after the use of homatropine. Dr. C. P. Pinkard reported a similar case, which he saw many years ago in the

Boston Infirmary. The patient was a girl with an error of refraction, and homatropine was used. The pupils had not returned to their normal condition at the end of a week, and she was given pilocarpine to use, with instructions to return daily. She was finally admitted to the Infirmary, when eserine and pilocarpine were used for about a month. The patient then attended the out-patient clinic during the rest of his stay there, which was about eight months, so that she was under constant observation for about ten months. When he left the pupils were still dilated, with complete paralysis of accommodation. He thought the condition was due to hysteria. Dr. Casey A. Wood stated that, having had occasion to use homatropine, he looked up the literature and found half a dozen cases similar to the one reported by Dr. Wildner. He thought there was something more than hysteria connected with these cases, and that, perhaps, an organic element followed the use of homatropine. Cases of dilated pupils are not so frequently seen after the use of duboisine, atropine, etc., as after the employment of homatropine, but why he did not know.

Probable Tumor of the Pituitary Body.—Dr. Daniel R. Brower presented a patient for diagnosis. The boy was five years of age and weighed eighty-five pounds. He first came under the speaker's observation two months ago at the County Hospital, at which time he weighed ninety-two pounds. At a subsequent examination, made about a month ago, the boy weighed eighty pounds. He presented some comparative measurements and said that according to Dr. Christopher, who had done some original work along this line, the weight of a normal child of the same age was forty pounds, while this boy weighed over ninety pounds when first seen. The height of a normal child was forty-one inches, while that of this boy was forty-seven inches. Other comparative measurements were given of different parts of the body. He did not think the case was solely one of excess of fat. His attention was first attracted to the child by a marked vertical nystagmus. Dr. Hotz examined the boy two years ago and found atrophy of the optic nerve, with restricted vision and nystagmus. The atrophy must have been either congenital or developed from a central lesion. The field of vision is so contracted in the right eye as to be almost absolutely lost. There is likewise a little atrophy in the left eye. There is loss of both patellar tendon reflexes. Dr. Brower thought the case might prove to be one of tumor of the pineal glands or of the pituitary body. In the last number of Gould's Year-Book a somewhat similar case is reported, in which a diagnosis was made of tumor of the pituitary body, and at the postmortem examination it was found to be a tumor of the pineal glands. During infancy the boy was only the size of an ordinary child. The excessive growth began when he was three years of age and continued rapidly until seen by the speaker, at which time desiccated thyroid was administered. Since giving this agent, the weight of the boy has been reduced to eighty-five pounds.

Two Cases of Locomotor Ataxia.—Dr. Archibald Church presented two cases of this disease in males, and discussed briefly the Fraenkel method of exercises as a valuable adjunct in the treatment. In the discussion, Dr. Wood spoke of the involvement of the ear in tabes. He added a word or two of hopefulness regarding certain eye symptoms in tabes.

Diagnosis of Locomotor Ataxia.—Dr. H. B. Young of Burlington, Iowa, narrates two cases in connection with the diagnosis of tabes. He considers unreliable a diagnosis of locomotor ataxia based upon optic nerve atrophy and absence of knee-jerks, if no other manifestations are present. Something more is required and, while the profession is looking for it, he urged adherence to the teachings of Schmeichler.

GENERAL.

Resurrection of "Vratch."—This able Russian medical journal is to continue under a new title in pursuance to the wishes of the late editor, Dr. Manassein. It is to be called the "Russian Doctor" instead of "Doctor." Dr. W. Podwyssotzky, professor of Pathology at Odessa, is the new editor.

Physician, Not Horse Doctor.—A physician and surgeon has not the right to practise as a veterinarian. Such is the decision given by Judge W. G. Cochran in a case in the Douglas County Circuit Court, in which Dr. Barbour has sued Mell Crews for medical attention given to Crews' racer, A. J. Glick, which was injured while racing at Dubuque, Iowa. Barbour presented a bill for $258 and Crews contended that this amount was excessive, but paid $100. Barbour sued for the remaining $158, but lost the suit, as the Judge decided he had no right to practise as a horse doctor.

University of California.—A chair of anatomy has been established at the State University of California and Dr. Joseph Marshall Flint, instructor in anatomy in the University of Chicago and graduate of Johns Hopkins University has been appointed to the professorship.

Manila and the Plague.—The plague situation in Manila remains about the same, and no marked increase in the number of cases has occurred. During the week ended May 25, 1901, there were reported 29 cases—Chinese, 20; Filipinoes, 9—with 25 deaths. During the same period 8 cases of smallpox and 175 deaths from all causes were reported. One other new case of plague has occurred in Cavite, making a total of 2, with fatal results in both. Another case has also occurred in Santa Rosa.

Obituary.—Dr. Henry C. C. Maisch, of Philadelphia, died July 1st, aged thirty-eight years. After completing his education in Germany, Dr. Maisch was connected with Clark University, Worcester, Mass.; later he held a profes-

sorship in the Illinois College of Pharmacy in Chicago. For two years he was professor of materia medica and botany at the Medico-Chirurgical College, but resigned last year.

Dr. Martin H. Williams of Philadelphia died June 30th, aged thirty-nine years. For many years he was connected with Jefferson Medical College and Hospital in various capacities.

CORRESPONDENCE.

THE "HAND-STONE" IN SURGERY.

To the Editor of the MEDICAL NEWS:

DEAR SIR: In the great electric furnaces at Niagara is now manufactured a new product of synthetic chemistry, by aid of intensest heat; it is called by its discoverer carborundum. It is composed of tiny purple crystals hard enough to scratch sapphires, almost as hard as diamonds and even more indestructible. To produce it carbon is made to combine with silicon, using for the purpose coke and white sand, and at a heat of about 7,000° F., produced under the intensity of a current of 7,500 amperes, continued for some thirty-six hours.

This substance, carborundum, is finding an immense field of usefulness in various ways, but it is only recently that it has occurred to any one to apply it to the surgeon's needs.

The *bête noire* of the surgeon has been, is, and is likely to be, the skin. How to cleanse this, how best to free it from its microbic population with the least irritation, is continually being discussed, and the advent of rubber gloves has not lessened the interest; for though these have in my judgment come to stay, and those who oppose their use in ordinary aseptic operations are steadily lessening in number and influence, we must as carefully sterilize our hands now as before their coming, for at any moment a finger may be torn or pricked, exposing the wound to instant infection, otherwise.

I do not think the ideal method of sterilizing either our own skin or that of the patient has as yet been reached. The various chemicals used thus far are one and all irritant to most skins, or else are too slow in action to be considered ideal. However, my object is not at present to discuss them. One thing is certain; mechanical cleansing —while not in itself enough—is certainly the chief thing; and sufficient hot soap and water with friction of the right sort, for a reasonably long time, will go a long way toward the goal of absolute cleanliness in a surgical sense.

Heretofore, brushes have been considered as almost essential, although it has long been known that, in some regions, by the digging quality of the bristles the "submerged tenth," otherwise quiescent and fairly well-behaved microbes, dwelling in the deepest layers of the epidermis, may be stirred into a vigorous nihilistic activity. Still, as an effective loosening and removal of the superficial layers of the epithelium is obligatory and the brush has continued in use.

To-day, due to the ingenuity of Mr. F. A. Reichardt, of New York, we have a substitute for the brush which bids fair to become a favorite with the profession. This he has called the "hand-stone." It is molded from the carborundum crystals just described, first crushed to powder, and then resubjected to intense heat in its present shape. I have tried it sufficiently to be willing to speak confidently of its qualities. One employs it just as one does the brush or the pumice-stone, using an abundance of soap and water; but it has certain advantages over both. It does not dig in an unseemly way like the brush, and it is certainly more effective than pumice-stone, and also stands boiling or steaming perfectly well, of course. In fact, nothing short of dropping it upon a hard surface can injure it or affect it adversely in the least, and years of wear would leave it practically new. Use it gently; hard rubbing is unnecessary with it. The absolute sharpness of the almost microscopically small crushed crystals which compose the "hand-stone" enables the operator to file away, as with a file of extreme fineness, the surface layers of epidermis, down to the depth required, and the silken softness of the feel of the skin thereafter is really in noticeable contrast with the roughened condition often observable when the other means which I have mentioned have been used.

The particular pointed shape given the "hand-stone" is selected by the maker as enabling the user to fit its surface to any depressions or inequalities of the body. As yet, a means of making it reach the extreme angle beneath the finger nails has not seemed practicable, for this would require a very thin edge. But elsewhere it is all that can be desired for its special purpose, and I would suggest that surgeons boil one with their instruments, and then use it with, for instance, a lysol solution, in that final cleansing—or rather re-cleansing—of the patient's skin which we always employ a moment before operating.

ROBERT H. M. DAWBARN.

105 West 74th Street, New York March 15, 1901.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, June 29, 1901.

THE NATIONAL HOSPITAL FOR THE PARALYZED AND EPILEPTIC—REPORT OF THE COMMITTEE OF INQUIRY—A VICTORY FOR THE MEDICAL STAFF—THE END OF THE "ANCIEN RÉGIME"—ABOLITION OF THE SECRETARY-DIRECTOR—THE TUBERCULOSIS CONGRESS—PROGRAM OF FESTIVITIES—KOCH'S ADDRESS—IS HE GOING TO STARTLE THE WORLD AGAIN?

A FEW weeks ago I gave a short account of a quarrel between the doctors and the lay governors of the National Hospital for the Paralyzed and Epileptic which was convulsing the medical world of London and scandalizing the public. Briefly, the matter in dispute was, Should the medical staff have a voice in the management of

the hospital? Or should they be merely the executive, carrying out the behests of the Board of Management, or rather of an autocratic official entitled the Secretary-Director, concentrating in his own single person the administrative authority which he was supposed to represent? The demand of the medical staff, which includes several men of worldwide reputation, for some share in the government of the institution whose reputation they have made was obstinately and even insolently refused by the Board of Management; and when they made a formal complaint to the whole body of governors about definite instances of mismanagement, such as insufficient quantity and inferior quality of food, deficiencies in the nursing arrangements, etc., the Board appointed some members of their own body to inquire into the charges. Naturally the result of the inquiry was a declaration that all was for the best in all possible hospitals. The medical staff, however, insisted on an impartial inquiry by an independent committee, and at a meeting of the governors on March 23d it was decided that such a committee should be appointed. It was to include "at least one physician or surgeon, one eminent lawyer, one man engaged in commercial or financial pursuits, one man experienced in hospital management, not being a medical man, and one other person, none being members of the Board or Staff." The Committee comprised Sir Edward Fry, a late Judge of the High Court, a distinguished lawyer by no means likely to be biased in favor of the medical profession; Lord Wolverton; Sir W. W. Karslake, a King's Counsel learned in the law, as the official style runs; Mr. Timothy Holmes, formerly Surgeon to St. George's Hospital and a recognized authority on hospital affairs; Mr. Cecil Henry Russell, and Mr. John Danvers—both of them doubtless good men and true, but of whom the present deponent knoweth nothing. The Committee has made a thorough inquiry and its report, of which I have been privileged to see a copy though it has not yet been issued to the press, is a complete vindication of the medical staff, and a crushing condemnation of the system of government or rather misgovernment which has caused the trouble. The Committee recommends that the representation on the Board asked for by the staff should be granted, and what is particularly satisfactory they brush aside with contempt the objections to this concession put forward by the Board. The character of these may be judged from one or two instances. The Board affected a great fear of the evil influence that medical members might exercise by making the scientific element in the hospital predominant; this, they pleaded, would tend to subordinate the immediate benefit of the patients to the pursuit of medical knowledge. In proof of this it was darkly hinted that in the case of one child "the sufferings of the patient had been prolonged in the interest of medical science." The case referred to is understood to be one of microcephaly which some years ago was kept in a considerable time in order that the effect of linear craniectomy might be fully tried. This charge, at once malicious and foolish, was shown to be without foundation. Then it was insinuated that the religious functions of the Chaplain were made "very secondary to the medical services!" The Committee were able to satisfy themselves that the medical staff never interfered in any way with the spiritual ministrations of the reverend gentleman. There is a note of scorn in the conclusion of the Committee that they can find no foundation for the fears entertained that the character of the hospital as a religious and philanthropic institution would be imperiled by the presence of two medical men on the Board of Management. One cannot help feeling that the dread which the Board professed to feel lest the presence of two doctors should lead to the complete overshadowing of the other members of a Board of twelve is an unconscious testimony to the intellectual superiority of the medical staff.

With regard to the Secretary-Director, the *causa teterrima belli,* the Committee express a decided opinion that there was no place for such a functionary in the machinery of a well-organized hospital; and that, even if there were, Mr. Burford Rawlings was the wrong man to fill it. It was abundantly proved that the Board of Management had practically left the conduct of affairs to him. He was a member of the Finance and House Committees, at the meetings of which *one* was a quorum, and very often the quorum was the Secretary-Director. He therefore ruled the hospital virtually as a despot, and in his attitude toward the medical staff he "assumed the god" and "seemed to shake the spheres" by his nod. It was shown that he usurped the functions of the medical officers and that instead of limiting himself to the discharge of the duties entrusted to him, he had on many occasions, in the language of the report, "amplified his jurisdiction beyond its legitimate bounds." The Committee recommend the abolition of the office of Secretary-Director, which places in the hands of one man powers that it would require a peculiar combination of qualities (which, the Committee plainly say, is not possessed by Mr. Rawlings) to exercise without abuse

The practical outcome of the inquiry, therefore, is a victory for the medical staff and a signal defeat for the Board of Management. The Secretary-Director is left, in an official sense, dead on the field of battle. But I understand that the medical staff will not be satisfied with this. They thirst—of course, "tropically," as Hamlet says—for the blood of the Board of Management. They wish to make a clean sweep of their enemies, and to enter on a new era of scientific fruitfulness under the Saturnian reign of a more enlightened government.

The underlying cause of the whole trouble was the fact that some of the more influential members of the Board, including the Chairman, are strong antivivisectors, while some leading members of the staff, like Ferrier and Horsley, have

won distinction by experimental research. This is the explanation of the attempts of the Board to make people believe that if the medical staff had a voice in the management of the hospital it would become more a laboratory than a place for the treatment of disease.

The Committee of Inquiry appear to contemplate a complete change of government; for in their Report they distinctly state that the Secretary-Director only acted in the spirit of the instructions which he received from the Board of Management, and that on them, therefore, rather than on him rests the responsibility for his misdeeds. It is satisfactory that the National Hospital, of which we are very proud here, is not to fall from its high estate and become a happy hunting ground for the humanitarian faddist.

The prospects of the forthcoming Congress on Tuberculosis grow brighter as the time of meeting draws nearer. Some 1,200 adhesions have been received up to the present, and they continue to come in daily, so that there can be little doubt that the number will exceed 2,000. Money also flows in a steady stream; the Treasurer has now $23,000 in hand and he expects the figure to rise a good deal higher. The Congress is to be opened on Monday, July 22d, by the Duke of Cambridge, as representing the King. The Duke of Connaught will be prevented by his military duties from performing that duty as had been arranged. In addition to the customary banquet, there will be receptions by various great officers of the Congress, by the Lord Mayor, by the Earl and Countess of Derby and others. A river party is to be given by Sir John Whittaker Ellis, a former Lord Mayor of London; a garden party by the Duke and Duchess of Northumberland; and one by the Ladies' Reception Committee in the beautiful gardens of the Royal Botanic Society, Regent's Park.

I have already sent you the most important features of the scientific programme, and have only to add that Lord Lister will take the chair when Koch delivers his address on Tuesday, July 23d. The address will deal with the prevention of tuberculosis considered on the analogy of other infective diseases such as smallpox, cholera, plague, hydrophobia, rinderpest, malaria and leprosy, which can be to a certain extent successfully prevented. The principal question which Koch will discuss is whether what has been done up to the present for the prevention of tuberculosis and what is likely to be done in the near future correspond to the etiological conditions of the disease; and how far steps should be taken toward the adoption of more thorough methods of treatment. It may be said of Koch, as it was said of Dupuytren, that his motto might be *"Faire autrement."* He has, as far as so godlike a man can share in human weakness, the instinct of sensationalism, and from the somewhat mysterious foreshadowing of the lines of his address which he has communicated to the officials, one may gather that he intends to say something that will startle the Congress. After all I hear Madame will not accompany him, a change of plan which has relieved the minds of some of the organizers by removing the danger of social complications which might have slightly ruffled the perfect smoothness of the proceedings. But nothing short of the sudden death of the King, a French invasion, or a cataclysm of Nature, can now wreck the Congress.

TRANSACTIONS OF THE FOREIGN SOCIETIES.

British.

EXUDATES INTO THE VITREOUS—PARALYSIS OF THE THIRD CRANIAL NERVE WITH UNUSUAL COMPLICATIONS — BILATERAL SYMMETRICAL CORNEAL OPACITIES—ERYTHROPSIA—EYE INJURY DUE TO LIGHTNING.

L. BUCHANAN, at the Ophthalmological Society, June 13, 1901, read a paper on the inflammatory exudates into the vitreous chamber of the eye, illustrating his points with lantern slides made from his preparations. He said exudation into the vitreous in cyclitis was primarily formed in the pars ciliaris retinæ and more especially in the non-folded portion of it, but soon the fibrous stroma of the ciliary body and the retina took part in the production of the inflammatory exudate. The exudate was seen in fresh specimens hardened in 5-per-cent. formalin as white flocculent masses. It might be divided into zones, which from the ciliary body inward are as follow: (1) Fibrous zone; (2) fibrinous zone; (3) fibrinocellular zone. The formation of fibrous tissue usually begins early, possibly as early as the eighth day. Its origin appears to be some action of certain oval nuclei on the fibrin which then rapidly becomes fibrous tissue. The cells which formed the exudate at first formed masses on the non-pigmented parts of the pars ciliaris retinæ and could assume various characters. That all these cells are not derived from the endothelium is shown by bleaching and re-staining, when many cells could be seen migrating from the deeper to the more superficial layers. In the retina were also found similar evidence of migration. The cells thus exuded to the surface passed to a greater or lesser depth into the vitreous chamber where it could be seen that degeneration to different degrees had taken place, the nuclei often disappeared, but no evidences of mitosis could be made out. Fatty degeneration and later a further migration of nuclei occurred, which finally found their way back into the lymphatics. A fibrinous cyclitic membrane was thus left very fatty and highly vascular. The fat was absorbed and the vessels gradually constricted, so that finally an avascular fibrous tissue layer was left which gradually contracted and distorted and deformed the eye and then destroyed it. The last stage was the formation of true bone. Spherical globules were formed which grew, forming a solid mass penetrated by blood-vessels and finally became converted into bone. These bone corpuscles were probably fibrous tissue corpuscles. The

bone contained cavities lined with osteoblasts, blood-vessels, fat and fatty-acid crystals.

P. H. MULES recounted a case of paralysis of the third cranial nerve with unusual complications. The patient was a seventy-five-year-old man, who for several days had been feeling ill and proceeded to doctor himself by the following original and energetic plan. He took half a box of wind pills and feeling no better added a variety of others. He then took two ounces of tartar-emetic solution which provoked a two-day vomiting. When the vomiting had ceased, he proceeded to use on the forehead and scalp of his aching head various applications which are used chiefly for veterinary purposes. As he still continued to grow worse, Mr. Mules was called in. The edematous scalp was incised and ten grains of calomel given. The next day the patient was better, although sloughs covered the scalp and there was severe pain. It was then noted that there was paralysis of the third nerve. Seventeen days later the scalp had healed entirely, but the paralysis remained. The cause of all the trouble seemed to be a herpes of the fifth nerve. This was the cause of the patient feeling ill in the first place. The vesicles had never been seen, because the applications had caused so widespread destruction of the tissue. As a sequel the paralysis of the third nerve appeared.

P. H. MULES also reported a case of double symmetrical corneal opacity of eight years' standing. The apices of the lesions were at the pupil and the bases at the corneal margin. Their growth had been very slow and there was a vertical slit in each at about the pupil. One was scraped and the other cut away with a thin knife. The functional results had been very good. G. A. Critchell in the discussion stated that for seven years he had cared for a similar case in which the opacity began at the periphery. At the present time the pupils had still escaped, therefore he had not done any operation.

W. H. R. RIVERS described a form of erythropsia which appeared as a bright red border around a white object after strong illumination of the eye. This phenomenon might be regarded as a link intermediate between the ordinary forms of erythropsia and the transient red border seen about a white object and described by Shelford Bidwell. It was shown that this erythropsia of Bidwell, the artificial erythropsia of Fuchs and clinical erythropsia, such as occurs after removal of the lens, are closely related. The causes of all erythropsia were then considered and on the whole were shown to be due to coloration by the light stimulating the retina with blood. Such might be produced in several ways: (1) By transmission through the sclerotic; (2) by internal reflection from the eyeballs; (3) by transmission through the anterior layers of the retina. The experiments of Birckhoff show that erythropsia may occur when light is prevented from passing through the anterior periphery of the eye; but this does not exclude the third source of redness above mentioned.

M. T. YARR gave the history of two cases of injury to the eye due to lightning in South Africa. While encamped in the Orange Colony in March, 1900, they were exposed to a violent thunder storm. Major H.'s tent-pole was struck and at the same time he felt a tingling down the right side of his face and right arm. He became partially unconscious, but soon recovered; the tingling persisted for some days. Four months later he discovered that he was practically blind in the right eye and he was invalided to the base hospital. There were several large hemorrhages and patches of atrophy in the retina between the superior and inferior temporal veins, with a few scattered and much smaller hemorrhages in the periphery, some engorgement of the veins, pallor of the disc and contraction of the arteries. The left eye was normal. R. C., private, employed on telephone duty at Belfast, Transvaal. In October, 1900, his instrument was struck by lightning while he was sitting at his operating-table. He fell and could not see when he regained his senses. He suffered no bodily injury, but his instrument was bent. The next day he could distinguish light and darkness, and later count figures with the left eye. There was an extensive detachment of the retina in the right eye, running in wavy white lines inferiorly. The left eye showed a detachment spread over a wider area. The vision had been previously normal.

SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

Fifty-Second Annual Meeting, Held at St. Paul, Minn., June 4-7, 1901.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

FIRST DAY—JUNE 4TH.

Address of the Chairman.—Dr. Henry P. Newman of Chicago, in reviewing the advances in obstetrics and gynecology during the past year, accorded spinal cocainization first consideration. The consensus of opinion is that it is not applicable to children nor to major pelvic operations in sensitive women. The appearance of a patient during such major operation closely resembles one in a condition of shock. There have been six deaths recorded against the procedure. It is unreliable in obstetrics, because it cannot be timed to exert its good effect when most needed. There is no relaxation of muscular tissue while the patient is under its influence, and as that is necessary for the performance of most obstetric and gynecological operations, its field of usefulness is very much limited. In reviewing the cancer parasitic theory, one is struck by the large amount of work done in this field by American observers. At present, the only means of preventing uterine cancer is by removing all

abraded surfaces in the cancer bearing areas. In these cases the organs should be removed by the vaginal route. Ovarian transplantation has become a fixed operation and the honor of introducing it is due to Morris of New York. It is definitely settled that the ovaries can be transplanted anywhere in the pelvic peritoneum and still functionate.

Accidents and Complications of Pelvic Surgery.—Dr. John B. Deaver of Philadelphia, said post-operative adhesions are the most troublesome conditions that the surgeon is called upon to treat. The lower sigmoid offers the greatest perils, and this portion of the bowel is frequently torn. This is due to the immobility of the bowel at this point. Where the omentum is adherent it should be divided between ligatures. If a cyst or innocent tumor is adherent and inseparable from bladder or bowel it is advisable to remove as much as possible and to sear the remainder with the cautery. Collections of pus in the pelvis should be operated upon from above. It is impossible to deal with adhesions when the operation is done from below. Every woman who has borne children has a laceration of the cervix, yet not one in fifty should be repaired, unless in such cases there is a family history of cancer.

Dr. E. M. Ricketts of Cincinnati, said that in puerperal infection the pus should be evacuated by vaginal puncture or incision.

Post-operative Intraperitoneal Hemorrhage.—In this paper Dr. A. H. Cordier of Kansas City, Mo., said the most frequent cause of post-operative hemorrhage is the slipping of the ligatures. Catgut is an unstable ligature on large pedicles, because it is very apt to slip and when rapidly absorbed may allow fatal hemorrhage. In the only case in which the author employed it, fatal post-operative hemorrhage resulted. Silk is the best ligature for abdominal work. The tendency to post-operative bleeding is much increased by the use of the Trendelenburg position, because when the patient is lowered to the horizontal posture blood-pressure is increased and many vessels are reopened. The symptoms of hemorrhage and shock are the same. If the patient leaves the operating-table in good condition and within an hour or so shows symptoms referable to either of these conditions, it is better to open a suture, insert a pair of artery forceps and see if there is any bleeding. In all doubtful cases, where the wound is oozing, it is better to insert a rubber tube for twelve hours after the operation.

Dr. Howard A. Kelly of Baltimore said that he uses fine silk for ligatures and, provided everything be sterile, there is no trouble from the ligature. He had seen a fatal post-operative hemorrhage occur eight days after operation, which on autopsy was shown to have been due to absorbing of the catgut ligature. It is his custom to employ two ligatures on every large vessel. Careful inspection of the field after the operation should be made. If there is any doubt as to whether or not bleeding is going on it is better to open and see. The vessels should be caught first by a finger or forceps and clamped, and after that one may clean out the blood from the pelvis. Dr. McMurtry of Louisville does not believe that the ligature material has anything to do with the slipping of the ligature. He clamps the broad ligaments first in order to get rid of tension and then ties the vessels. The simple secondary operation of opening a wound of this kind is very much more serious than the most severe primary operation. Dr. H. O. Marcy of Boston advises that a suture be employed in these abdominal operations in addition to ligature. Kangaroo tendon is the best material. Dr. F. H. Wiggin of New York said that many of the secondary operations that he has been called upon to do were the result of silk ligatures. He uses fine chromicized catgut and has never had them slip. He also sutures. The method of tying is responsible for many failures. A single knot should be tied first and a double knot afterward.

Elimination of Peritoneal Infection and Prevention of Surgical Peritonitis.—Dr. J. G. Clark of Philadelphia from an analysis of 1,700 cases and various experiments draws the following conclusions: The peritoneum has an enormous absorbing function, taking up from three to eight per cent. of the entire body weight in one hour. (2) Minute bodies are carried in a short time by mediastinal lymph-glands and vessels into the blood by which they are quickly distributed to abdominal glands and bone-marrow. (3) These granular bodies are first largely carried as free bodies swept by the current, but later leucocytes act as carriers. (4) After the introduction of micro-organisms into the peritoneal cavity, there is a great decrease in their number within the first hour, both by intraperitoneal destruction and by rapid absorption into the general circulation, wher they are dealt with. (5) Therefore there is no possibility of limiting free infectious matter to any part of the peritoneal cavity by mechanical means. (6) Vigorous streptococci which remain behind develop within six hours a repellant quality for leucocytes and the lethal combat is therefore well under way before drainage, as ordinarily employed, can possibly have any beneficial action. (7) A moderate number of even virulent organisms carried by blood to the lungs, etc., may be eliminated without the least harm to the patient, whereas if the same amount of infection is retained it would generate others and overwhelm the patient. (8) In most cases drainage is useless. (9) The patient is greatly stimulated by the intra-peritoneal use of the decinormal salt salution and is better able to resist infection.

Dr. Kelly of Baltimore said that he never

uses drainage in abdominal work, except in general peritonitis due to appendicitis. At times gauze is used to sequestrate cavities, but is generally removed within twenty-four hours. Dr. Wiggin believes that the saline solution prevents adhesions between the intestines. He has used this method for nine years with the happiest results.

A New Method for Extirpation of Cancer of the Rectum.—Dr. M. D. Mann of Buffalo, N. Y., read a paper on this subject. For growths too high to be reached by vagina or rectum the following procedure had been successfully applied in three cases. The patient is placed in the Trendelenburg position and an abdominal incision made; the rectum is then clamped just above the growth, pulled out of the way, the growth removed and a Murphy button used as a means of anastamosis. Excellent union was obtained. Dr. J. W. Bovée of Washington suggested that the uterus be removed in these cases, thus affording more room.

SECOND DAY—JUNE 6TH.

Atresia Hymenalis.—Dr. O. Thienhaus of Milwaukee showed a specimen of this condition and said that the presence of hematosalpinx in it proves that this atresia is of inflammatory origin. Any of the infectious diseases may cause it. Gonorrhea in the infant often affects the vagina and is the commonest cause of atresia. If a hematosalpinx is present it must be removed by abdominal section. Simple vaginal incision is fatal in 70 per cent. of the cases. This is due to the sepsis that almost invariably as follows.

Immediate and Remote Result of Conservative Surgery.—Dr. A. Goldspohn of Chicago read this paper. He said that in a series of 97 cases of follicular and cystic degeneration of the ovary treated by excision and ignipuncture, ten pregnancies occurred. Satisfactory results as far as the symptoms were concerned were obtained in but one-half of those treated per vagina. In all of the cases done from above the results were perfect two years after operation. The method by inguinal incision is preferable in those cases that do not have extensive adhesions. In all patients not near the menopause and free from dyscrasia, some part of the ovary should be preserved. Asepsis is a *sine qua non* to success. Fine absorbable material should be employed as a suture. The incision should be large and preferably done through the abdominal wall.

Dr. Bovée stated that if the ovary is extensively diseased it should be removed entirely. It is safer to remove the entire tube than a part of the same. The cases treated by excision or puncture are generally troubled later by the adhesions that form in these places. A premature menopause is not as troublesome as the stormy menstruation that occurs in these cases.

Electrothermic Hemostasis.—Dr. A. J. Downes of Philadelphia in a paper with this title, considers hemostatis by electricity the ideal method in abdominal surgery, especially in appendectomy. The instruments devised by the author for this purpose consist of an angiotribe and hemostatic forceps, provided with an iridoplatinum strip in the jaws, and connected with a storage battery. In a series of cases examined postmortem, no trace of vessels could be found in the stump.

How Shall We deal with Uterine Myomata? Dr. E. E. Montgomery of Philadelphia believes that thyroid extract exerts a special influence on the epithelium of the uterus. It stops bleeding and relieves pain both in normal and carcinomatous uteri. Large doses are required and these are rarely well borne. Fibroids ordinarily should be removed by enucleation. Submucous fibroids can be removed by vagina after dilating or splitting the cervix. It is seldom necessary to remove the uterus.

Carcinoma of the Cervix Uteri.—Dr. J. M. Baldy of Philadelphia in his paper upon this subject said that according to the surgery of the present day cancer of the cervix is practically incurable. If we analyze all statistics, counting all our cases, less than five per cent. have been reported as cured. In the past there has been too much stress laid upon microscopic findings and too little upon clinical experience. Hemorrhage and progressive loss of flesh and strength are the earliest symptoms and they are always present. Any show of blood appearing after one year after the menopause, with no history of injury, has in his experience almost invariably been due to cancer. A few drops of blood after coition or constipation, or any slight exertion in any woman, calls for an examination. It is extremely rare to find any other cause except cancer.

Dr. Wiggin said that if a case is seen within six months from its inception, there is a good chance of recovery by surgical means. We should not wait too long for the report of the pathologist, if the clinical symptoms are marked, because in some cases within a few days the case is beyond recovery. Dr. E. Reis of Chicago described his method of extirpating the uterus and appendages together with all the glands in the pelvis and stated that, although his primary mortality is 20 per cent. there has been no recurrences in any of his cases. The operation is not as difficult as might be expected.

Ovarian Surgery.—A paper on this subject was presented by Dr. A. Palmer Dudley of New York. It is very rare that total ablation of uterus and appendages is necessary in pelvic diseases. Out of 190 cases of conservative operation there had been no failures, and the women are perfectly well to-day. Conservative surgery is only suitable for young persons during the child-bearing period and those in good circumstances who can afford to rest for

some months after the operation. Out of 128 of these cases that have been followed 28 pregnancies have occurred. He has performed intra-uterine implantation of the ovary six times. One of the horns of the uterus is split and the ovarian graft, still attached to its own ligaments, is suspended in the uterine cavity and stitched to the mucous membrane. In this way it is nourished by its own vessel and also by the mucous membrane of the uterus. The patient menstruates and thus the evils of the artificial menopause are mitigated. Dr. J. Riddle Goffe of New York said that he has done the conservative operation a hundred times and in eleven instances pregnancy has followed in women that were previously sterile. He advised that the operation be done through the vagina.

Incisions Appropriate to Different Renal Operations.—Dr. Kelly said that the ordinary incision for approaching a kidney posterially cuts across some of the nerve trunks and thus often causes an area of anesthesia over the hip. By anatomical demonstration it was shown that an incision over the superior oblique triangle, beginning over the last rib, running down obliquely along the erector spinæ, and carried only through the skin and fascia was most advantageous. The fascia is then incised and the fatty capsule of the kidney gradually pulled out piece by piece. In this way the kidney is not injured. If the kidney is diseased and it is necessary to remove it, the incision should be made lower down, reaching to the crest of the ilium. The fascia should be cut and the muscles separated exactly in the same manner as in the McBurney incision for appendicitis.

THIRD DAY—JUNE 7TH.

Surgical Treatment of Retroversion of the Uterus.—Dr. Franklin B. Martin of Chicago presented this paper. After having tried various modifications of the ordinary Alexander operation, the author concludes that none of them secure perfect results. Hence, the following operation was devised: In cases of simple retroversion without adhesions the ordinary incisions are made as in the Alexander operation. A forceps is then passed from one side under the skin and fascia to the opening on the other side. The ligament is now grasped in the jaws of the forceps and brought through to the opposite side. The two ligaments are then tied in a knot and this knot is pushed under the skin and superficial fasia. Sixty-one cases have been done by this method with perfect results during the past five years. Among these cases six pregnancies have since occurred without any evil results. By this method uniform shortening of the ligaments is secured, and permanent and strong fixation is insured.

Retrodisplacement of the Uterus.—Dr. Emil Ries of Chicago read a paper on this subject. The vaginal route is superior (1) because it exposes a limited area; (2) the shock and danger of infection are much less; (3) it requires less handling of the intestine and less adhesion results; (4) there is no visible scar; (5) there is no ventral hernia; (6) the time of detention in bed is less and the after-treatment very simple. Vaginal fixation as ordinarily employed is a failure, because, if the uterus is fixed too close to the anterior vaginal wall, there will be trouble if pregnancy should follow. On the other hand, if loosely attached, a return of the displacement is very common. With other methods of shortening the round ligaments, the uterus is held by unstable adhesions and kinking of the Fallopian tube is quite common. In the author's method the ordinary anterior vaginal incision is made, the uterus and appendages are brought out, the round ligament is next detached from its peritoneal covering by a blunt dissection, a catgut ligature is then attached to each ligament about one inch from its insertion into the uterus. On the anterior surface of the uterus on a level with the tubes a tunnel one inch long is made through the uterine tissue by means of artery forceps. A round ligament on one side is pulled through this tunnel by means of the catgut ligature attached to it. The same thing is done on the opposite side. The ligaments thus are made to cross one another in the tunnel. Each of the ends are anchored at the point of exit of the loop from the tunnel on each side. The wound is closed in the usual manner. Within a week the patient leaves the hospital. Perfect results have been found in all the cases examined one year after the operation.

Dr. Goffe of New York said in discussion that the uterosacral and uterovesical ligaments are the main supports of the uterus. If the cervix could be brought well up in the hollow of the sacrum by shortening the uterosacral ligament, we would have the ideal method. This is impracticable at present. In his own operation he makes a vaginal incision, sutures a loop in the round ligament and fastens the loop to the anterior surface of the uterus. If silk is used as a suture, failure is not likely. Dr. W. H. Humiston of Cleveland believes that in a simple retroversion, by a thorough curetting and the use of a suitable pessary for eight or ten weeks, one can cure most of these cases. Dr. Kelly has had relapses in but 2 per cent. in 600 cases of abdominal fixation done by the method described by him. Forty-three patients became pregnant out of a series of 214. There was no trouble during labor in any of them.

Position of Patient During Delivery.—This paper was read by Dr. W. D. Porter of Cinnati, O. In the ordinary method of delivery, with the patient on her back, fecal matter often enters the vagina and is a frequent cause of

septic infection. The author prevents this in the following manner: The patient is laid across the bed with her hips well down to the edge with her legs extended; two assistants are employed to hold the legs, but in some cases the backs of two chairs may be utilized. The operator sits in front between the legs and is thus able to control the head and perineum perfectly because the patient cannot change her position.

Obstetrics as It Is and as It Should Be.—Dr. E. Gustave Zinke of Cincinnati said we should encourage the confinement of all women, no matter what their circumstances may be, in maternity hospitals, because no one can be prepared for all emergencies in a private house. The patient should be delivered by the family practitioner. It saves the physician's time and also offers greater protection for the patient than at present.

Puerperal Sepsis.—Dr. J. F. Moran of Washington, D. C., in this paper said, that the streptococcus is the commonest cause of severe septic infection. In cases due to streptococcus the pulse rate is high and out of proportion to the temperature curve. The constitutional symptoms are also more marked than would be expected from the height of the temperature. In staphylococcus and colon infection the temperature may be high, but the pulse is lower than in streptococcus infection. Marked beneficial results were obtained in several cases of pure streptococcus infection by the author from the use of antistreptococcus serum.

The Curette in Obstetric Practice.—This paper was read by Dr. H. D. Fry of Washington, D. C. As a general rule the curette should be employed only in those cases in which we cannot use the fingers. In infection by streptococci a protective zone is formed beyond the limit of the exudate and the general system is usually protected. If this be broken down by the curette a general infection results. If the infection be due to saprophytic organisms, a foul-smelling discharge occurs and here the use of the curette is indicated. The streptococcus infection is seldom accompanied by a foul-smelling discharge and this is a rough means of differentiating between them. If one is in doubt cultures can easily be taken and most cases can safely wait twelve hours for the result.

Streptococcus Infection Following Labor.—This report was read by Dr. W. Humiston of Cleveland, O. The case was drained by the method of opening into the pouch of Douglas and inserting gauze therein. The streptococcus, staphylococcus and colon bacillus were found in the peritoneal exudate. A satisfactory result was obtained and there are practically no adhesions remaining.

Sterility of American Women.—This was the title of a paper presented by Dr. George J. Engelman of Boston and is based on statistics obtained from town records and family histories in various parts of the country. An analysis shows that a century ago the sterility of the American woman was but 2 per cent., the lowest in any civilized country on the globe, while the fecundity, *i.e.*, the number of children to a marriage, was 6. At present the sterility is 20 per cent. and the fecundity but 2 to a marriage. These figures show a much higher percentage of sterility among the wealthy classes. Among college graduates the sterility reaches 33⅓ per cent. and the fecundity but 1.4 to a marriage. The generally accepted sterility at present among civilized nations is 11 per cent. The sterility among foreigners in this country is 13 per cent. The French Canadian shows the highest fecundity of any race, amounting to 9 to a marriage. Miscarriage and divorce are concomitants and causes of sterility. Normally there is 1 miscarriage to every 5½ labors. In the United States there is 1 miscarriage to every 2½ labors, and in Boston 1 to 1 3-10 labors. In Canada there is 1 divorce to 6,300 marriages; in the United States 1 to 185, and in Rhode Island, 1 to 8 $^{2}/_{10}$. From 6 to 10 per cent. of all women miscarry normally; the remainder is criminal abortion. Primary barrenness due to utero-ovarian disease, such as gonorrhea or endometritis does not amount to more than 12 per cent. among Americans. That this increasing sterility is not due to increase in utero-ovarian disease is evident from its rapid increase hand in hand with the great progress of gynecology which we have every reason to believe would reduce the number of childless women to a minimum were sterility referable to tangible causes. Sterility is due to the male in 1 out of 5 barren marriages.

Dr. Duff of Pittsburg said that much blame was due to the editors of the daily press in allowing the insertion in their papers of insinuating advertisements for the production of abortion.

Ectopic Gestation.—This paper was read by Dr. W. H. Wathen of Louisville, Ky. Nearly all forms of ectopic gestation are primarily cases of tubal pregnancy. None are primarily abdominal. There has been only one case of ovarian pregnancy reported before the one presented here. In the treatment the vaginal route is to be preferred (1) for almost all of the early cases, (2) after the sac has ruptured when the blood is confined between the layers of the broad ligament or in the cul-de-sac, (3) in slight extravasation in cases of intra-abdominal rupture. Suprapubic section is advisable in all other cases. When the placenta cannot be removed entirely, the cul-de-sac should be opened from below and the edges of the sac should be sutured in the vagina, thus making it extraperitoneal. Then it may be allowed to slough out.

FOURTH DAY—JUNE 7TH.

Puerperal Eclampsia.—This paper was presented by Dr. T. J. Beattie of Kansas City. In all cases of eclampsia the urine contains micro-organisms, but none thus far described can be considered as specific. Albumin in the urine is a secondary manifestation and is due to the direct action of the poison on the renal epithelieum in an effort at elimination. A certain amount of this poison is present in the blood of all pregnant women. The most significant evidence of impending eclampsia is the finding of less than 1 5-10 per cent. of urea in the urine. Veratrum viride is our most valuable drug in this affection. If we give it in a sufficiently large dose the pulse can be kept low and experience has shown that if the pulse remains low convulsions rarely occur. Ten minims by hypodermic injection should be administered and repeated when necessary.

Dr. C. L. Bonifield of Cincinnati, O., said that veratrum viride is an absolute specific in full-blooded individuals with a full, bounding pulse. From fifteen to sixty minims of Norwood's tincture should be given and repeated every fifteen minutes until the pulse falls below 60. It should be kept below 60 for three or four days. It should never be used in thin, anemic women with a small, thready pulse. Morphine and chloral are the best agents in these patients.

Cæsarian Section for Placenta Previa.—This was the title of a paper by Dr. W. J. Gillette of Toledo, O. As a result of a circular letter sent by the author to 1,000 maternity institutions inquiring into the frequency of placenta previa the following data were obtained: Out of 105,935 deliveries there were 216 of placenta previa or one in every 481 deliveries. Thirty-four mothers died, a mortality of 15 per cent.; 96 children died, a mortality of 34⅓ per cent. In placenta previa centralis the maternal mortality was 22 per cent., with a fetal mortality of 70 per cent. In placenta previa partialis the maternal mortality was 11 per cent., and the fetal mortality 31 per cent. None of the mothers died before the seventh month. One-third of the cases reached full term. Dr. Bernays of St. Louis performed the first successful section for placenta previa in 1893. Nine cases of this operation have been reported since that time. A successful case by the author makes ten in all. Four of these have been successful as regards mother and child. Under proper conditions Cæsarian section for placenta previa should not furnish a fetal mortality greater than 10 per cent. and no maternal mortality. The Porro operation is best fitted for these cases because when the patient is first seen she is usually exsanguinated and in such the uterus does not contract well.

Intra-Uterine Amputations.—Dr. Maher of Oakland, Cal., reported the case of a child in whom at birth the fingers of one hand and the toes of one foot were missing. A few days later a spontaneous amputation of the fingers occurred on the hand of the other side. This was shown to be due to fibrous bands that encircled all of the digits. The author believes that these bands were due to a deposit of fibrin from the amniotic fluid.

Gynecology; Its Contributions to Surgery.—This was the title of a paper by Dr. Henry O. Marcy of Boston. Ovariotomy has advanced with more rapid strides in this country than elsewhere. Dr. Burnham of Lowell, Mass., was the first one who ever performed myomectomy for fibroid tumors of the uterus. The author himself performed the first cholecystotomy ever reported. Gynecology as a specialty is rapidly disappearing. The gynecologist is gradually becoming a specialist in abdominal surgery.

The following officers were elected for the ensuing year: Dr. J. G. Carstens of Detroit, Mich., Chairman; Dr. C. L. Bonifield of Cincinnati, O., Secretary.

BOOK REVIEWS.

THE HISTORY OF MEDICINE IN THE UNITED STATES; A Collection of Facts and Documents Relating to the History of Medical Science in this Country, from the Earliest English Colonization to the Year 1800, with a Supplemental Chapter on the Discovery of Anasthesia. By FRANCIS RANDOLPH PACKARD, M.D. Illustrated. 8vo., pp. 542. J. B. Lippincott Co., Philadelphia and London, 1901.

DR. PACKARD has gathered innumerable incidents from private papers and early journalistic records to bring clearly before the mind of the reader the conditions under which the practice of medicine rose from a combination of rough horse-doctoring and quackery to a science deemed worthy of university standing. He treats in particular of the American colonies, the early medical education and schools, the place of medicine during the War of Independence, and the first attempts at organizing medical societies and medical literature.

Most fascinating is the manner in which Dr. Packard has combined the results of his investigations and the more or less unimportant facts of the early quackery among the colonists, with the familiar events of history. Anecdotes, quotations from diaries and extracts from old letters, and various early prescriptions, form a quaint and realistic setting for the actual statistics; while the detailed accounts of the fevers and epidemics prevalent during the seventeenth century, show with what care all the existing sources of information have been studied in order to clearly set forth the exact position of the New World in regard to the rise and knowledge of medicine.

Great attention is paid to the first efforts to-

ward a proper medical education in this country, showing the change from the simple apprenticeship of the student to some local doctor, to the final establishment of schools of medicine, and a particularly full description is given of the founding of the medical department of the University of Pennsylvania, and the establishment of the first hospitals. The lives and efforts of all the early physicians and surgeons are carefully outlined, with the particular movements with which they were connected.

In treating of the place of medicine and of hospitals in the War of Independence the author has been most successful in giving the atmosphere of the times and portraying the struggles and difficulties of those engaged in caring for the wounded. Even in these times there seem to have been political snags; and though many of the foremost doctors occupied military posts of great importance, they seem to have encountered difficulties in obtaining the needful supplies for their medical duties.

The last chapter of the book must be mentioned especially as differing from the rest of the volume. It gives a most interesting account of the discovery of anesthesia by Dr. Crawford Long in 1842; and the rival claims of Drs. Jackson and Wells; also the manner of first using ether to benumb the senses, and its first application to a private patient of Dr. Long's. The final description is of the first public use of ether at the Massachusetts General Hospital, by Dr. Morton, and the subsequent adoption of this anesthetic throughout the country.

The whole volume is a very skilful combination of the early historical facts of medicine, told in a most readable way, and a vast amount of statistics which cannot fail to be interesting to all concerned in the study of medicine. Many of the statistics are of the beginnings of what are now world-renowned institutions, and to have them so collected from their various almost unobtainable sources and arranged in compact form will be a great satisfaction and pleasure to any desiring to ascertain points of historical importance in the early development of medicine in the United States.

A SYLLABUS OF NEW REMEDIES AND THERAPEUTIC MEASURES; With Chemistry, Physical Appearance and Therapeutic Application. By J. W. WAINWRIGHT, M.D., Member of the American Medical Association, U. S. Pharmacopœial Convention of 1900, American Chemical Society, etc. Chicago: G. P. Engelhard and Company, 1901. Pp. 224.

THAT many of these new remedies are extensively used goes without saying, yet from the scattered or interested literature about them, one has difficulty in reaching conclusions as to their value. So the author's attempt to search this literature, and by abstracts of the material at hand to make a convenient and concise handbook will be appreciated by the practitioner. The author wisely refuses to consider the many patented mixtures that are sold as coal-tar products, but takes up those the chemistry of which is known, or the exact formulæ of which are given. Besides the ordinary list of remedies he has discussed under separate headings anesthesia, animal remedial preparations, the Nauheim treatment, cold and heat and serumtherapy. As is the custom among the best writers, the doses are given in the metric system, being followed, however, in each instance, by the equivalent amounts in Troy measurement. Almost no attention is paid to chemistry, and but little to solubilities and incompatibilities, the book being essentially a therapeutic summary. Like its fellows in the Standard Monograph Series, this book is handsomely printed and bound with uncut edges and gilt top. It will form a creditable addition to one's materia medica library.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

PATHOLOGIE GÉNÉRALE ET EXPÉRIMENTALE. LES PROCESSUS GÉNERAUX. I. Par. MM. A. CHANTEMESSE and W. W. PODWYSSOTSKY. 8vo, 428 pages. Illustrated. C. Naud, Paris.

MOSQUITOES. How They Live; How They Carry Disease; How They Are Classified; How They May Be Destroyed. By L. O. Howard, Ph.D. Demi 8vo, 240 pages. Illustrated. McClure, Phillips & Co., New York.

OPERATIVE SURGERY. By Dr. Joseph D. Bryant. Vol. II. 8vo, 1,302 pages. Illustrated. D. Appleton and Company, New York.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. Edited by Dr. S. Solis Cohen. Vol. II. ELECTROTHERAPY. By Dr. George W. Jacoby. 8vo, 323 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

ORAL SURGERY. A Text-Book on General Medicine and Surgery as Applied to Dentistry. By Dr. S. L. McCurdy. 12mo., 368 pages. Illustrated. Calumet Publishing Company, Pittsburg.

CLINICAL PATHOLOGY OF THE BLOOD. A Treatise on the General Principles and Special Applications of Hematology. By Dr. James Ewing. 8vo, 432 pages. Illustrated. Lea Brothers & Company, Philadelphia and New York.

A TREATISE ON ORTHOPÆDIC SURGERY. By Dr. Royal Whitman. 8vo, 650 pages. Illustrated. Lea Brothers & Company, Philadelphia and New York.

A PRACTICAL TREATISE OF DISEASES OF THE SKIN. By Drs. J. N. Hyde and F. H. Montgomery. Sixth Edition. 828 pages. Illustrated. Lea Brothers & Company, Philadelphia and New York.

TWENTY-FOURTH ANNUAL REPORT OF THE BOARD OF HEALTH OF THE STATE OF NEW JERSEY, 1901.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries and Improvements. Vol. II., June, 1901. Edited by Dr. H. A. Hare. 8vo, 470 pages. Illustrated. Lea Brothers & Company, Philadelphia and New York.

CLINICAL AND PATHOLOGICAL PAPERS FROM THE LAKESIDE HOSPITAL, Cleveland. Series I., 1901. Collected Reprints.

TRANSACTIONS OF THE ASSOCIATED PHYSICIANS OF LONG ISLAND. Vol. II., January, 1900, to June, 1901. 8vo, 170 pages.

BURDETT'S HOSPITALS AND CHARITIES, 1901. The Scientific Press, London. Charles Scribner's Sons, New York.

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ORIGINAL ARTICLES.

A STUDY OF SIXTEEN HUNDRED AND FIFTY BLOOD EXAMINATIONS FOR THE WIDAL REACTION WITH SPECIAL REFERENCE TO SO-CALLED PARTIAL REACTIONS.[1]

BY ROBERT J. WILSON, M.D.,

OF NEW YORK.

IN presenting this paper for consideration I wish first to direct attention to the fact that the examinations have all been made by one person, and that they have all been restricted to a certain rule, *i.e.*, certain phenomena must be present in every examination to constitute it a reaction, thereby reducing the personal equation to the very lowest degree. In commencing the examination of suspected typhoid bloods I had made for my use a book so ruled as to give a column each for these phenomena: (1) Effect on motility; (2) effect on the integrity of the individual organisms; (3) the amount of dirt and detritus in the hanging drop; (4) the number of bacilli near the edge of the drop; (5) the number, character and location of the clumps; (6) the dilution.

The culture was examined immediately upon being mixed with the suspected blood and to each column in the book was added a note on the conditions ascribed to it.

The examinations were made at frequent intervals, the phenomena being noted each time. It was not until after I had made several hundred examinations that I was struck with the number of bloods showing practically the same phenomena (where there was marked effect on the motility and decided clumping of a peculiar kind), and that I commenced the study of these bloods with the idea of later submitting them for consideration.

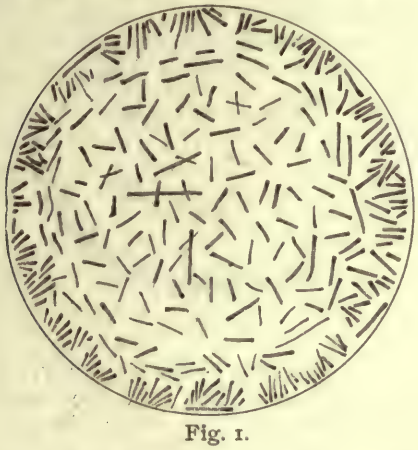

Fig. 1.

To the end that one may thoroughly understand what is meant by the term "Widal reaction" in this paper, I have had drawings made of microscopical fields of the typhoid bacilli in bouillon cultures, both before and after the addition of typhoid blood, and also after the addition of blood from a case of another febrile condition, where there has been a so-called partial reaction.

In making the hanging drop to be examined it is necessary to have it of such depth that it will show at least three focal planes, otherwise the examination will be incomplete and unsatisfactory.

Fig. 1 shows a microscopical field of the top of a hanging drop of a normal bouillon culture of typhoid bacilli. This culture is twenty hours old and the organisms are freely motile. This represents the control drop used for comparison with the drop of the same culture to which has been added a little of the blood of a person suspected to have typhoid fever. Note these points in Fig. 1; the organisms are evenly distributed throughout the field except at the edge of the drop where they are gathered in great numbers; they show great activity here, seemingly trying to crowd to the very edge. This attraction is probably due to the action exerted on the organisms by the oxygen in the air, which naturally exerts positive chemotaxis on all aerobic organisms.

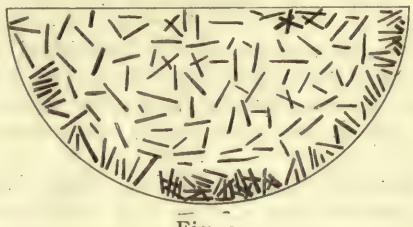

Fig. 2.

Fig. 2 shows a cross section of the drop represented in Fig. 1, and you will notice that the bacilli are evenly distributed throughout the drop, except at one place in the focal plane *a* and again in the focal plane *c*. It sometimes happens that there is something adhering to a supposedly clean cover-glass which attracts the bacilli to that point where they appear as fairly well defined clumps, more or less like the true clumps due to the agglutinating substance in typhoid blood. The increase in organisms at the bottom of the drop in the focal plane *c* is easily accounted for by the fact that gravity naturally carries the dead and non-motile organisms to the bottom, these frequently assuming the character of clumps.

If you can find a field in any focal plane of the hanging drop free from clumps, you can be quite sure that any clumping present is not due to any

[1] Read before the Society of Alumni of Bellevue Hospital.

agglutinating substance which necessarily will affect organisms in every focal plane.

Fig. 3 shows the microscopal appearance of the top of a drop where the Widal reaction is present. Notice first that the organisms have been drawn together in groups and that the individuals of each group appear to be loosely held together. Viewed under the microscope these clumps are practically quiescent there being very

Fig. 3.

little movement, either of the individual organisms or of the clump as a whole. The edge of the drop is practically free from organisms, showing that the air no longer exerts any influence on them.

Fig. 4 shows a cross section of the hanging drop shown in Fig. 3; you will notice that the clumps are evenly distributed throughout the drop, with perhaps some increase in the numbers and compactness of the clumps at the bottom.

Fig. 5 shows the microscopal appearance of the

Fig. 4.

top of a hanging drop of a bouillon culture to which has been added some blood of a patient suffering from a febrile condition not caused by typhoid infection, but which exerts a marked influence on the typhoid organisms. You will notice that there are many organisms at the edge of the drop. The air exerts the same influence on the bacilli that it did before the addition of the blood. Note the character of the clumps, generally compact at the center with the bacilli at the edge of the clump usually attached by one end only.

Very frequently these clumps have the appearance of being built up around a piece of detritus present in the drop. All the organisms comprising the clump seem to have retained part, at least, of their motility, those on the edges being particularly motile so far as their free ends are concerned. When motility is very much inhibited, these clumps have a peculiar trembling movement, which is like the molecular movement described as Brownian.

Fig. 6 shows a cross section of the drop represented in Fig. 5; note the same character of the clumps in every focal plane. The large number of motile bacilli and the number attracted to the edge of the drop by the air. The appearance of the drop shown in Figs. 3 and 4 is what has been taken to constitute a Widal reaction in this study and when any of the characters there shown have been absent, the blood has been classed as not giving it.

Fig. 5.

In this study I have had access to the records of all the Hospital cases, and have carefully looked over the history of every one. In the cases in private practice, those giving a partial reaction only have been studied; 1,003 of the cases occurred in hospitals and 647 occurred in private practice. The 117 cases referred to later in this paper which had typhoid fever and in which no reaction occurred were all hospital cases. It is probable that a proportional number occurred in the cases in private practice.

These blood examinations have all been made in the Department of Health Research Labora-

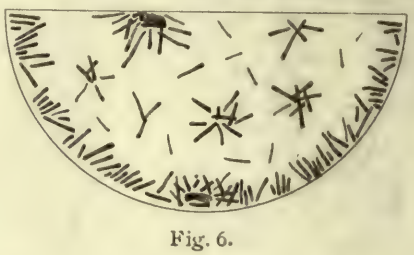

Fig. 6.

tory and they represent blood from a great variety of cases, where at the time the blood was sent to the laboratory there existed in the mind of the medical attendant a doubt as to what the disease might prove to be. Naturally most of them were sent comparatively early in the disease, so that failure to get reactions in the typhoid cases is not to be wondered at.

The blood of a patient in most instances was

sent only once, I suppose either because the symptoms were so pronounced that it was not thought necessary to have the blood again examined, or the case proved to be typhoid. This was unfortunate so far as laboratory results were concerned, for it leaves our work but half completed. If the physician would only looked past his own immediate interest to that of the profession at large such studies as this one could be made of far greater value because they would show the complete statistics. Most of these cases, so far as I can ascertain, were only suspicious of typhoid at the time the blood was sent and this reason, combined with the early day in the disease where typhoid infection did exist, accounts for the comparatively few Widal reactions.

Of the bloods examined 265 gave the Widal reaction. Forty-six were sent on or before the seventh day of the disease; 36 from the eighth to the tenth inclusive; 50 from the eleventh to the fourteenth day inclusive; 28 from the fifteenth to the twenty-first day inclusive; 7 from the twenty-second to the twenty-eighth day inclusive; 5 from the twenty-ninth to the thirty-eight day inclusive and in 93 the day of disease was not mentioned. In 34 cases the Widal reaction occurred upon the second examination of the blood, of these, 2 were negative on the third day and positive on the eighth and tenth days respectively; one negative on the fifth day and positive on the thirteenth day; one was negative on the sixth day and positive on the ninth day; 8 were negative on the seventh day and positive on the eighth, ninth, tenth, thirteenth (2), fifteenth (2), and seventeenth days respectively. One was negative on the eighth and positive on eleventh day. One was negative on the ninth and positive on the sixteenth day. Five were negative on the tenth and positive on the eleventh, twelfth, thirteenth, fourteenth and twenty-fourth days respectively. One was negative on the eleventh and positive on the fifteenth day. Two were negative on the twelfth and positive on the fourteenth and twenty-sixth days respectively. Five were negative on the fourteenth day and positive on the sixteenth (2), seventeenth, nineteenth and thirty-third days respectively. One was negative on the sixteenth and positive on the twenty-first day. Two were negative on the twenty-eighth day and positive on the thirty-fourth and thirty-eighth days respectively. One was negative on the thirtieth day and positive on the thirty-second day. One was negative on the thirty-fifth day and positive on the thirty-seventh day.

In three cases the day of the disease on which the blood was first examined could not be ascertained. They gave the reaction on the twenty-sixth, sixty-fourth and eighty-fourth days respectively. In all of these late cases it is probable that the reaction would have been noted earlier had the blood been sent at frequent intervals after the first examination.

The Widal reaction was found in 8 cases that were not diagnosed typhoid and which gave no history of a previous typhoid infection. Three were malaria; of these, two were soldiers from a typhoid-infected camp and one had had a continued fever two years before. One was a case of diarrhea, no other diagnosis; this case was discharged improved after having been in the hospital nine days, this also was a soldier from a camp where typhoid infection was common. One was a case of puerperal fever complicated with phthisis. At the autopsy of this case tuberculous ulcers were found in the small intestine. There was one case of cerebral hemorrhage where there was no history and no autopsy. There was one case of chronic endocarditis and one case of splenic infarction with rupture.

I think that all of these eight cases speak pretty well for themselves, without my making any comment upon them further than to say that the possibility for error of diagnosis in all such cases is very great. There were 1,115 bloods examined that did not react at all, of these 117 proved to be typhoid. The blood was only sent to the laboratory one time. Forty-one specimens of blood were sent from the fourth to the seventh day of the disease, inclusive—fourth, 12; fifth, 13; sixth, 4; seventh, 12; 22 from the eighth to the tenth day, inclusive—eighth, 18; ninth, 8; tenth, 6; 23 from the eleventh to the fifteenth day, inclusive—eleventh, 14; twelfth, 2; fourteenth, 2; fifteenth, 5; 18 from the sixteenth to the twenty-first day, inclusive—sixteenth, 6; seventeenth, 2; eighteenth, 1; nineteenth, 2; twentieth, 3; twenty-first, 4; 3 from the twenty-second to the thirty-seventh day, inclusive—thirtieth, 2; thirty-seventh (1), and there were ten that were not dated, so the day of disease could not be found. Of the typhoid cases where blood was sent for examination only once and no reaction obtained, 35 per cent. were sent before the end of the seventh day of disease; 38 per cent. after the seventh day and before the end of the fifteenth day of disease, and 27 per cent. after the fifteenth day of the disease, all but three of these being sent during the third week of illness.

There were 160 cases that did not give a typical reaction, but that did give a partial reaction to such a marked extent as to lead me to believe that these reactions might possibly be due to the agglutinating substance of typhoid. The clumps, while differing from those that are found in a Widal reaction, were present in every field and were well defined, but the fact that they were usually made up of more or less motile organisms, and that the edge of the drop was never free from organisms, caused them to be classed as not Widal reactions.

I have analyzed these cases as carefully as possible where access could be had to the records of them and find that they naturally fall into two classes, those occurring in hospitals and those occurring in private practice. There were 37 cases that occurred in private practice, of these 20 were called typhoid and were divided as follows: One walking case, 2 mild cases, 1 abortive case, 15 ordinary cases, and 1 protracted case.

Thirteen cases were not typhoid, divided as follows: 3 where no diagnosis was made, 3 intermittent fever, 1 fecal impaction, 1 la grippe, 1 colitis, 1 acute indigestion, and 1 enteritis. In four instances no response was received to the letter of inquiry sent out.

Of the 123 hospital cases there were 56 where no records were kept of the cases, but from the fact that the histories of typhoid-fever cases have been apparently well kept in all the hospitals visited, I think that it is safe to assume that most, if not all of these 56 were not typhoid. Of the remaining 67 cases where records were kept, 8 were typhoid fever, 15 were not diagnosed, 10 were tuberculosis, 16 were malaria, 4 were bronchitis, 4 pneumonia, 1 pleurisy with effusion, 1 nephritis, 2 anemia, 1 pericarditis, 1 gonorrhea and 1 submersion.

In private practice 54 per cent. of the partial reactions occurred in typhoid infections while in hospitals 6.5 per cent. only occurred in typhoid infections. It seems to me that it is not improbable that some of the cases in private practice were continued fevers other than typhoid.

I shall base my conclusions, so far as the partial reactions are concerned, on the hospital cases where fairly-accurate histories were kept. No attempt has been made in this study to find out how often the Widal reaction occurs in typhoid fever; that point has been pretty well determined and it is generally conceded, I think, to be about 95 per cent. of all cases. Had all the physicians sending blood to the Health Department Laboratory been as much interested in the scientific side of the investigation as they were in the clinical, our statistics would be much more valuable.

In this study, of those giving positive reactions 33 per cent. occurred in the first week; 84 per cent. before the end of the second week; 16 per cent. in the third week and 4 per cent. in the fourth week. The fact that so large a percentage occurred as early in the disease as the second week would tend to show that the examination of the blood, so far as these cases were concerned, has been of material value to the physician in charge. Where the reaction occurred upon the second examination of the blood, 56 per cent. were found before the end of the second week; it is highly probable that this percentage would have been much larger had another specimen of blood been sent back promptly upon receipt of the result of the laboratory examination of the first specimen. Of the typhoid bloods where no reaction was obtained all but 27 per cent. were sent before the sixteenth day of the disease, and there is no reason to believe that the reactions would have been absent had second specimens been sent for examination during the second and third weeks. Less than 7 per cent. of the partial reactions were found in typhoid infections in the hospital cases. These partial reactions occurred with greater frequency in both tuberculosis and malaria than they did in typhoid. They were found in thirteen different conditions, and I have no doubt that, if blood was sent from a general medical ward and from febrile cases, this list would be greatly augmented.

The value of the partial reaction to the clinician is absolutely *nil*, I think, except in so far as it has occurred in a few typhoid cases it would be an indication to send another specimen of blood for examination. In the bloods where the Widal reaction occurred on the second examination there were only two where the partial reaction was present on the first examination. There is no reason to believe that this partial reaction would have not been present had the patient been suffering from any of the diseases enumerated above, instead of a typhoid infection.

In summing up the results of this study, it seems to me that they can be embraced in these two sentences: First, that these cases where the Widal reaction has been present are only further evidences of the already-known practical value of the reaction. Second, that the so-called partial reactions are valueless so far as the clinician is concerned.

A NEW METHOD OF DETERMINING APPROXIMATELY THE AMOUNT OF HYDROCHLORIC ACID IN THE GASTRIC CONTENTS.*

BY MAX EINHORN, M.D.,

OF NEW YORK;

PROFESSOR OF MEDICINE AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

THE usual method of titrating with phenolphthalein and one-tenth normal sodium hydrate solution for determining the total acidity, and with Toepfer's solution for the free HCl, requires a certain amount of stomach-contents (about 10 cc.). When we have to deal, however, with very small quantities neither of these two methods is practicable. The amount of contents obtained by the examination with the stomach-bucket is always so small that we cannot very well filter and titrate it.

It was Günzburg[1] who first tried to estimate approximately the quantity of HCl by another method than titration. For this purpose he made use of his well-known phloroglucin-vanillin reaction, determining how many times the stomach-contents could be diluted with water before the reaction disappeared. Until recently I always employed this method in cases in which there was only a small amount of gastric contents at hand. Günzburg's test, namely, evaporating a drop of gastric contents mixed with a drop of Günzburg's reagent in a porcelain dish over a spirit-lamp, is somewhat complicated and lengthy, particularly as the same procedure must be repeated after each dilution.

I have lately made use of a somewhat more simple method which in exactness I believe to be equal to that of Günzburg. For this purpose I employ the solution of dimethylamido-azo-benzol recommended by Toepfer. I do

* Read before the German Medical Society of New York.

[1] Günzburg. Centralblatt f. klin. Med., 1887, No. 40.

not, however, make use of the solution directly, but of filter paper, saturated with it[2] (similar to Congo paper).

The procedure is as follows: A minute quantity of stomach-contents is placed by means of a glass rod upon a strip of dimethylamido-azo-benzol paper (one-half by eight centimeters). If the paper turns red one drop of the contents is diluted with two drops of water in a small porcelain dish. A glass rod is dipped into the mixture and the test paper again touched. If it still turns red, one or two more drops of water are added and the procedure repeated as before. This is done until only a slightly red or almost no red color is produced by the mixture upon the test paper. In this way the amount of dilution required for a trace reaction with the test paper is determined. It is clear that the more HCl there is in the stomach-contents the more they can be diluted, still giving a trace reaction with the dimethyl-amido-azo-benzol paper.

In order to determine the clinical value of this method I have examined the gastric contents of 21 patients (about one to one and one-half hours after a test breakfast) according to the usual titration method and also by means of dilution and testing with the dimethylamido-azo-benzol paper. The results are given in the accompanying table.

TABLE COMPARING THE DETERMINATION OF HYDROCHLORIC ACID IN STOMACH-CONTENTS BY MEANS OF THE USUAL TITRATION METHOD AND BY MEANS OF DILUTION AND TESTING WITH DIMETHYLAMIDO-AZO-BENZOL PAPER.

No.	Name	Date	Titration Methods		Dilution and Paper Method
			Total acidity	Free HCl	
1	H. G.	3, 8, '01	36	24	3+trace.
2	M.	3, 5, '01	50	30	3+tr.
3	J. P.	4, 2, '01	52	32	4+, 6 tr.
4	B. N.	5, 13, '01	52	32	4 tr.
5	M. M.	5, 12, '01	60	44	3+, 5 tr.
6	R. S. S.	3, 6, '01	60	40	4+ strong, 8+, 10+faint, 12 tr.
7	D.	3, 2, '01	64	32	3 tr.
8	M. N.	5, 27, '01	68	48	3+f., 5+f., 6 tr.
9	H. B.	2, 28, '01	72	54	5+, 7 tr.
10	O. P.	5, 22, '01	80	60	4+, 7+f., 9 tr.
11	S.	5, 22, '01	80	60	4+, 6+, 8 tr.
12	C. A. H.	5, 11, '01	80	56	4+, 6+f., 8 tr.
13	M.	4, 29, '01	80	60	5+, 8+, 10+f., 12 tr.
14	E. D. B.	4, 25, '01	86	72	6+ st., 10+st, 12+, 15+. 18 tr.
15	S. L.	3, 17, '01	88	70	10+, 12+f., 14 tr.
16	P.	3, 27, '01	88	72	5+, 7+, 9+, 12 tr.
17	H. P. H.	4, 4, '01	92	74	6+, 8 tr.
18	H. K.	5, 7, '01	96	80	5+. 9+, 14 tr.
19	J. N.	3, 20, '01	96	76	4+st., 8+, 12 tr.
20	J. A. W.	5, 9, '01	100	80	5+, 8 tr.
21	S.	3, 2, '01	100	80	8+st., 12 tr.

Before considering the table, I would like to remark that I have excluded from this comparative investigation all cases in which the addition of dimethylamido-azo-benzol to the stomach-contents did not produce a red color, as the absence of free HCl is self-evident in these cases.

Looking at the table we see that in Cases I.-VIII., in which the total acidity varies between 36-68, the amount of dilution, necessary to obtain the end reaction with the dimethyl-amido-azo-benzol paper oscillated between 3-6, the larger numbers usually corresponding to a greater acidity. Only once (Case VI.) did we meet with an exception; here the acidity was 60 and the amount of dilution 12.

In the second group, Cases IX.-XXI., all suffering from hyperchlorhydria, the acidity varied between 72-100 and the amount of dilution between 7-18. Usually the higher amounts of dilution corresponded to a greater acidity, only once with an acidity of 100 the amount of dilution was 8.

Summarizing the results of the table, it is fair to assert that in a majority of cases there exists a certain relation between the acidity and the amount of dilution necessary to produce the end or trace reaction with the dimethylamido-azo-benzol paper. A dilution of from 3-6 would correspond to a normal, under 3 to a subnormal acidity, and over 6 to hyperacidity.

The numbers given refer to the examination one to one and one-half hours after Ewald's test breakfast. If we have to test after other more complicated meals (test dinner, etc.) hyperacidity would be indicated by somewhat smaller amounts of dilution (from about 6 times on), since we estimate approximately only the free HCl and the amount of the latter is relatively small after meals containing much albumin.

The method just described of approximately determining the quantity of free HCl in the stomach-contents will be of value in the following two conditions: (1) In examinations with the stomach-bucket, or where from other causes only small quantities of gastric contents are at our disposal. (2) In cases in which it is of importance to obtain at once an idea regarding the amount of acidity and the necessary solutions for titration are not at hand.

[2] The dimethylamido-azo-benzol paper can be obtained from Eimer & Amend, 18th street and Third avenue, New York.

LOCAL TREATMENT OF FEMALE DISEASES; ITS ABUSES.[1]

BY A. L. BEAHAN, M.D.,
OF CANANDAIGUA, N. Y.

THE advance in all branches of medical and surgical art requires frequent shifting of means and technic. The discussion of the local treatment of female diseases needs to be rewritten. A brief consideration of a few features that are easily demonstrable will be of probable interest.

The appreciation of diseased conditions is best obtained when all the senses required are brought to bear. To see and to feel leave but little doubt and the interpretation of the meaning of discoveries becomes easy.

To abdominal operations we are indebted for correction of our views of pelvic pathology and to new views of rational therapeutics and treat-

[1] Read before the Rochester Academy of Medicine.

ment. Such terms as peri-uterine cellulitis, pelvic peritonitis, pelvic abscess, pelvic hematocele, pelvic cellulitis, perimetritis, parametritis, metritis, endometritis, cervicitis, endocervicitis, ulceration of the cervix, menorrhagia, and metrorrhagia, need to be reviewed and modified or abandoned.

Much has been done in this direction, but many vagaries remain in minds permeated with the methods of quite recent times, and a strong impress has been left on the thought and practice of gynecology.

The commercial spirit has developed. Mechanical devices increase, the large sales of chairs and tables have invited undue emphasis to their uses. Applicators of all form abound. Drug houses add surgical specialties and present the new and great sellers to the profession they canvass with much profusion and persistence. The recent innovation of a gauze packer has been especially commended. Gauze packing is, with few exceptions, non-surgical, for it obstructs drainage and invites sinuses. To introduce the body tube into the uterine cavity, a preliminary dilation of cervix would usually be required. The sharp edge of the end of tube and its size are enough to condemn it; but its large sale is evidence that the trend of our practice is wrong. A small electric-lamp is vaunted as useful in vaginal exploration. The eye, with sunlight, and the finger, with educated touch, are simple and less cumbersome. The various forms of Peaslee needles are hawked around, regardless of the fact that Emmet long ago taught the classical principle that the perineum should be sewed from within and elevated, rather than sewed from without and depressed. Uterine applicators are fair sellers, but the profession must appreciate that they are harmful, even dangerous.

The subject of abuses may properly be studied best not from the standpoint of the instruments and appliances alone, but from the diseases to be met and the remedies to be used in their relief.

The most dangerous procedures are perhaps intra-uterine examinations, operations and applications. It is easy in the virgin to find an os uteri with a pin-hole opening, a tenacious plug, a superficial erosion. It is too readily appreciated in primiparæ or multiparæ that the os uteri is ulcerated, the uterus subinvoluted, its mucosa soft and studded with granulations. It requires a steady breadth of conception not to fall into the error of finding too much or exaggerating trivial symptoms into symptoms complex. The most dangerous instruments used in treating these diseases are dilator, sound and curette. The dilator of common use, Goodell's, has in the hands of the writer in at least two instances torn its way into the pelvic cavity. The second time was only a few days subsequent to the first, and great care was being exercised, but in the subsequent curetting of each case this instrument passed suddenly into the pelvis. I am sure this happens oftener than appreciated, especially in women who have never been pregnant. The sound should never be used. Its usefulness is more than offset by its dangers, both as to mechanical and germ-carrying features. The curette is of use when the uterus has failed to expel part or the whole of the products of conception, or when later the uterus does not contract because of fungous granulations of the membrane of uterine cavity. But the curette should be used with great circumspection and after careful eliminating diagnosis. Its use should rank with major operations and similar careful preparation should be made for its performance. Large, smooth, loop curettes should be employed to remove placental debris.

It has been my misfortune to remove on several occasions ovarian cysts filled with old blood extravasations subsequent to curettement. It seems probable that the violence to the uterine mucosa may have caused the pelvic congestion and effusion of blood into cysts. I have not met with these blood signs except when curettage had preceded the ovariotomy. In these cases temporary relief was afforded an associated dysmenorrhea, but in a few months the monthly pains were anguish in one patient and severe collapse, with hysterical delirium, imperceptible pulse, pallor and cold extremities were present. The curette is a valuable aid, but it needs to be used with more judgment than perhaps any other gynecological instrument.

The so-called local application for female diseases opens a number of chapters of interest. The patients recite with their friends the number they have received. The physician expects two or three visits a week, and for what? Does an erosion, the everted lips of a laceration, the tenacious mucus within the os, the thin, watery discharge from the uterine cavity, the enlarged uterus, the swollen appendages, improve by local means as usually applied with applicators from bottles labeled, "solution of nitrate of silver" "tincture of iodine," "carbolic acid," or their similars? How many men of twenty-five years' practice have faith in this work? Is any cause removed? Can a lacerated cervix, an enlarged ovary, a swollen tube, be influenced by cervix applications?

How can tubal disease be relieved when the first portion of the tube is so small and when salpingitis forms strictures, often permanent, so early? How can the uterine mucous membrane, so parchment-like in nature, require the strongest caustics to influence its healing, if diseased?

The use of pessaries has been much abused. They are of some value, but how many cures do they effect? Our instrument drawers are filled with obsolete patterns that attest youthful hopes not realized. Electricity as usually applied seems futile. Its advocates should not overlook the fact that ameliorism of symptoms is not proof of curing disease and careful, not severe, applications should be made tentatively, especially when puncture applications are made, as inflammation, even sepsis, may be caused.

The principles of practice must recognize the causes involved in producing female diseases. Constipation, with full bowel and rectum; the history of the girl at twelve who later applies

for relief from harm that befel her during the critical period of adolescence; the story of confinements not normal and repairs not made in season, with resulting torn and everted cervix or laceration of perineum, with descensus of all the abdominal contents, even the kidneys; the deduction by history or surmise of sexual infections and their sure involvement of the general system, as in syphilis, or the no-less-certain and life-time damage to ovary or tube if exposed to one who has, or ever has had, gonorrhea—all these make a picture that must fasten itself on the thought to make it broad enough to comprehend how female diseases are not to be abused in their treatment.

Calomel and salines indirectly lessen pelvic engorgement by partial depletion and drainage and directly by unloading the rectum and bowel and relieving pressure. Hot-water douches in recumbent posture, followed by soothing alkaline or stimulating astringent solutions of moderate strength, are useful, except in tubal and ovarian diseases, but if pain occurs when they are administered it is proof of harmfulness.

Repair the torn cervix by the Emmet method. Repair perineal laceration by the American or Emmet method of elevating the perineum and anchoring it well up. Remove appendages, if diseased; perform curettement only according to the dictum of this article, and dilate the cervix when demanded. These are general rules which I believe need emphasis.

Local treatment, as applied, will seldom be required. The use of tampons of cotton or wool with glycerine are valuable, but should only be used when the patient is confined in bed. Great care is to be exercised in this procedure, for lives have been lost by peritonitis after elevation of an adherent uterus or appendage has been accomplished by packing. No tampons with any medicament ever incorporated can cure organic tubal or ovarian disease, and their employment may be, as stated, dangerous to life.

As will be seen, the simple treatment of a symptom is out of place when treating female diseases. It is a complex subject and needs to be considered and met in a broad and comprehensive manner that permits neither fads nor methods of abuse.

A medical friend recently called my attention to an evil resulting from indiscriminate "local treatment," which seems probable. That is, the tendency on the part of both physician and patient to overstep the local application with the uterine applicator, and use a similar instrument to induce abortion. Undue familiarity with this form of treatment may invite more than is at first thought anticipated and eventually lead to crime.

This brings to our attention the moral question which is pertinent: Should woman, on whose virtue depends the welfare of a race, be needlessly exposed at frequent intervals to indignities that may foster a spirit of undue liberty and lessen the reserve given her by all the finest attributes of her peculiar organism? "The man who lays his hand on woman save in the way of kindness, is a villain" may be remembered and emphasized with profit by the physician to whom life and honor, remote and present, are both entrusted. The treatment of the sexual organs has always been the field of the charlatan and impostor. In no other form of disease, real or supposed, is it so easy to prey upon the imagination. Let not the power, the marshalled forces, the potent influence of gynecological thought and practice, or of medical work in the broad sense, lend itself to a purpose whose debasement by these alluring frauds indicates the ease with which deception and sham may be wrought where Nature is so strong and yet so weak! The purely scientific principles of practice should be closely followed. The patient's condition after careful diagnosis is to be announced with no evasion, but no fulsomeness, and the remedy, whether radical or systemic, prescribed according to the needs.

The individual is to be swerved from believing herself sick by giving her an increase of courage, stability of will, and a renewed self-confidence. Stimulation of the mind, not depressing statements, sufficient treatment, but not excessive care, will tide over the case and support the mental equipoise.

Mistakes in diagnosis are possible. Within the past thirty-six hours we removed the appendix from a girl of twenty, who had suffered severe menstrual pains for four years. We found the right rectus hard and a temperature of 99.2° to 100.2° F. continuing for two weeks. No appendiceal storm had broken, but at the recurrence of the menses the same fever was present, accompanied by inability to lie comfortably on left side, because of a pulling from the right side, a painful point over appendix, a small but hard appendix and anterior thigh pains. After close observation of the patient for two months the removal of the appendix disclosed its base retracted into the head of the cecum, with a stercolith in the apex of the appendix and the blood-vessels at the head of the cecum enormously enlarged. Probably typhilitis had been present. Passing the finger into the pelvis the right ovary was found to be normal in every way.

The close study of many female diseases will certainly limit the range of usefulness of "treatments," but enlarge the sphere of surgical relief and improve the care of remote and general disturbances.

DISINFECTION WITHIN AND WITHOUT THE BODY IN DIPHTHERIA.

BY M. A. VEEDER, M.D.,
OF LYONS, NEW YORK.

THE effectual control of diphtheria in an individual or a community is a problem that is exceedingly complex. There are at least three forms of disease that have been confounded under the name of diphtheria, and it is only since bacteriological methods of study have come into

use that these have been distinguished from each other with precision, they formerly having been regarded as modifications of the same disease rather than as separate diseases. They are diphtheroid, sore throat characterized by the presence of staphylococci; true diphtheria, characterized by the presence of the Klebs-Loeffler bacillus and septicemic sore throat, characterized as a rule by the presence of streptococci. Although these diseases occur separately they are nevertheless often associated in a characteristic way. Diphtheroid sore throat predisposes to the onset of diphtheria, so that if a patient having the former is exposed to the infection of the latter, diphtheria may begin at once without an incubation period. In like manner either diphtheroid or diphtheria may prepare the way for septicemic sore throat. Indeed, it is doubtful whether streptococcus infection can establish itself in the throat at all without some pre-existing disease, or lesion of the parts, just as erysipelas starts from some small scratch or puncture. Thus the septicemic form of sore throat, although very fatal, is not very contagious.

Diphtheroid is a harmless affection except as it predisposes to diphtheria, or septicemic sore throat, or both. Diphtheria in and of itself is dangerous, but is most dangerous if it becomes the channel through which septicemic infection gains access to the body. Against the streptococcus infection antitoxin is powerless, but the antistreptococcus serum may be used with good effect.

It is a peculiarity of the streptococcus to locate itself in the exceedingly tough and foul-smelling membrane that is characteristic of these cases. Hence the application of strong disinfectant remedies, as, for example, pure carbolic acid, has appeared to be of service. This is a measure, however, not to be recommended in ordinary diphtheria.

Erysipelas, puerperal fever, and septicemic sore throat, all are forms of streptococcus infection closely related to each other. Indeed, any of these diseases may originate the other, the liability so to do depending on the location of the infection in or on parts of the body accessible to the touch, rather than upon differences in the nature of the infection itself. A physician attending such cases should apply the principles of surgical cleanliness accurately and completely for his own security and for that of his patients. It may become necessary to go so far even as to abstain from seeing cases of ordinary diphtheria lest they become septicemic through contact of the physician in attendance with erysipelas, puerperal fever, or septicemic sore throat. During epidemic prevalence of diphtheria, the occurrence of diseases of either of these classes may have special significance and should be carefully watched with a full understanding of the dangers involved.

Furthermore, every surgeon knows that the danger of septicemia is very much increased if operations are undertaken in buildings where the plumbing is bad, and where there are untrapped drains. It is true that antiseptic dressings decrease the risk somewhat even under the most unfavorable surroundings, but a sore throat cannot be protected every hour and minute, as is a wound, and if that throat is diphtheritic, the barriers against septicemic infection are as absolutely down as though there were an open wound. The traditional prejudice against foul drains and the like as a source of specially malignant diphtheria is not without warrant. Indeed, such receptacles and not the throat itself appear to be the natural habitat of infection of this class. If carried on the person, it is by accident rather than as a part of the usual life history of the streptococcus infection.

The Klebs-Loeffler bacillus, on the other hand, appears to find its natural habitat in the throat, it becoming more or less atypical when grown in culture media outside the body. Although irregular in form and having its presence masked by that of other micro-organisms, there is nothing to prevent its growth in the albuminous material crusting the interior of drain pipes that are never cleaned nor flushed, unless it be too low a temperature at times. But the dried sputum from a diphtheritic patient kept at ordinary temperature has been found capable of originating living colonies of the bacillus for six months. This being the fact, the Klebs-Loeffler bacillus certainly could remain alive perhaps from year to year in underground drains, although leading a fluctuating and precarious existence. Such receptacles are specially liable to contamination through rinsings or expectorations from the mouths of persons having diphtheria, and thus also the infection may be renewed and kept alive, the persons living on the premises originating their own antitoxins and becoming immune. Where this has happened quarantine and antitoxin no matter how carefully applied with the aid of bacteriological tests, fail to eradicate the disease completely. The writer has met with instances which appear to be beautiful illustrations of this in three or four large institutions.

In an emergency of this sort where it is not possible to wait for improvement of drain pipes and plumbing, it is well to know that such fixtures, when incapable of being flushed adequately, can be sterilized by the aid of chlorine gas. In the presence of septicemic sore throat especially, this resource may be of the highest importance.

Nor is the diphtheroid form of sore throat unimportant. This form of throat trouble is much more common at all times than is generally supposed, not attracting attention, recovery being so rapid, unless the more serious diseases of the throat become prevalent, whereupon numerous cases of this type are brought to the attention of the physician, and are commonly classed as diphtheria for reasons that will appear shortly.

As has already been intimated diphtheroid predisposes both to diphtheria and to septicemic sore throat, shortening the incubation period to such an extent that the bacteriological test may show the throat clear from diphtheria one day and

strongly infected the next. There being such increased susceptibility a diphtheroid case may readily become diphtheria in the very act of examination unless adequate precautions are taken.

The fact that the physician's own throat is not red or sore is no proof that it is not infected, for infection often occurs without symptoms, particularly in adults when strongly exposed, and there is no stronger exposure than to receive the spray that comes from the mouth and nostrils of a child that is coughing and crying, as they often do, during an ordinary examination of the throat. The writer has met with very conclusive evidence that such particles of spray floating in the air are able to carry the Klebs-Loffler bacillus a distance of several yards. If the physician thus infected during an examination goes to another case without proper precautions, even though it be at an interval of several days, his own breath, and the spray from his lips in the act of talking, if nothing more, may convert a case of harmless diphtheroid into severe diphtheria in an hour.

This is the danger also that militates against the use of the bacteriological test to determine whether quarantine shall be established or not. Such testing can be relied on at the outset of quarantine only when it can be known with certainty that there is no secondary source of infection such as that just described. In other words, unless physicians in attendance upon cases of diphtheria, or moving about in a community where diphtheria is epidemic, have their own throats tested to see whether they themselves are clear of infection, and especially whether any precautions they may take are adequate, it is better to regard all cases of diphtheroid as diphtheria provisionally, using the bacteriological examination mainly for the removal of quarantine rather than for its establishment. If these suggestions are followed out thoroughly, there may be a surprise awaiting not a few members of the profession. The very anxiety that leads to seeing cases frequently, and testing and examining them often, may be a means of spreading the disease. The routine that the writer has been led to adopt is to be provided with squares of antiseptic gauze and corrosive sublimate tablets. A square of such gauze may readily be held over the mouth and nostrils with the left hand while the right hand is free to use the tongue depressor or swab. Both hands and the face should be wet with the sublimate solution before and after the examination and the gauze may be burned after being used. This, together with frequent spraying and cleansing of the mouth, throat and nostrils, and bacteriological testing, affords very complete security against either giving or receiving infection.

There are many precautions that will readily suggest themselves in regard to the care and disinfection of articles that have touched the mouth or lips on which infection may remain for extended periods in the form of dried saliva. Perhaps the worst of all such articles is the ordinary lead pencil, the use of which should be absolutely forbidden every diphtheria patient. The infection of milk through the agency of some one having a diphtheritic throat coughing or sneezing while handling it seems to have occurred in a case or two that have come to the knowledge of the writer. Sterilization of milk by boiling is the proper method during diphtheria epidemics, and always.

As regards ridding the mouth and throat of infection, there are a few points that deserve more extended notice than can be given them on this occasion. Especially important is the behavior of the diphtheria bacillus where there are cavities in the teeth. In such cases the person thus infected becomes immune, as if from antitoxin, but there is frequent recrudence of sore-throat trouble more or less typical in its resemblance to ordinary diphtheria. Often there are red spots somewhere near the bad tooth, or exactly opposite it on the interior of the cheek. These come and go, and there may be evanescent traces of membrane on the tonsils at intervals of weeks and months. Bacteriological examination at times shows the presence of the bacillus, and at times its absence. Sometimes it can be found by inserting a swab into the tooth cavity when not apparent in the mouth. A very interesting case of this sort under my observation after an exceedingly prolonged quarantine infected another person through the intermediary of a lead pencil, showing that although the bacillus had been present and absent in a curious way, and the throat symptoms had varied fitfully, there was true diphtheria infection throughout a period of at least four months. In this case there was a deep cavity concealed between two teeth and recovery was not perfect until the tooth itself had been removed.

In these cases the bacillus appears to be nourished by fresh supplies of particles of food, such as meat and potato, lodging in a cavity as in a culture tube at each meal. Thus the process is perennial and infection does not die out as it does when the throat alone is infected. It would seem that sterilization of the tooth cavity by cauterization would reach the source of the trouble at once, but it does not, the few bacilli remaining elsewhere in the mouth apparently reinfecting the cavity. A better plan is to insert a pledget of cotton saturated with some disinfectant solution before and after meals. Even then in very bad cases it may be well to have the tooth extracted.

An observation of this sort is very suggestive as to the amount of care required to be of any material service in ridding the mouth and throat of diphtheria infection by methods of disinfection. The perfunctory use of sprays, swabs or gargles apparently accomplishes so little in shortening the period of quarantine that some physicians practically have come to rely on giving the antitoxin and waiting. But where the infection is harbored and kept alive in the manner that has just been described neither the antitoxin nor waiting will insure recovery within any reasonable length of time. Meanwhile the person may have infected unconsciously a whole neighborhood or town.

Very likely the bacillus when lodged in the

spongy portions of the tonsils, or in some fold behind the palate, or in the nostrils, will die out gradually as the person becomes immune. But the process of its removal may be hastened and made more secure by constant sterilization of the parts as far as possible. Remedies for the purpose should not be irritating, in order that they may be employed constantly at very frequent intervals, the growth of the bacillus and its diffusion through the mouth being very rapid. Peroxide of hydrogen made alkaline by lime-water, or by the addition of equal parts of Dobell's solution is very good. Freshly made chlorine water with the addition of a little tincture of iron is highly efficient. A soft camel's hair toothbrush kept in a two-per-cent. solution of carbolic acid, and used with a lather of Castile soap is of great service, as is also dental floss drawn between the teeth. Such measures persisted in will clear up, as a rule the most refractory case, as determined by bacteriological examination in about a month, very few cases showing perfectly clear in as short a time as three weeks.

It has been the purpose of the present discussion to outline a few leading features so that whatever measures of disinfection are adopted, whether within or without the body, they may be used with full knowledge of the dangers and difficulty and complexity of the subject of control of diphtheria.

CEREBRAL APOPLEXY: ITS RELATION TO TESTAMENTARY CAPACITY.[1]

BY CHARLES SCHRAM, A.M., M.D.,
OF NEW YORK.

IN offering a paper of this character to the Society, I am aware that it is in the nature of an innovation, being of necessity of a less scientific type than has marked those heretofore read. Yet its importance is manifest. It is the duty of every member of the profession to elevate and dignify the position of the expert, because through him the profession is exhibited to the public eye in a glaring light. By assisting him to speak with confidence on subjects whereon his opinion must be sought by the State, this duty is best subserved.

Apoplexy occurs at an age when individual responsibilities are apt to be greatest. Its victims are usually within the decade between the forty-fifth and fifty-fifth year. They have had time and opportunities for the accumulation of wealth and the attainment of posts of importance and prominence. The keen struggle for self-advancement and indulgence in the luxuries wealth affords seems to have caused a rapid increase in the number of apoplectic seizures. According to Dercum the number of fatal apoplexies in New York in 1868 was 356, in 1886, 762, and in 1893, 1,171. These figures show an increase out of all proportion to the concomitant increase of population. According to the same authority about two-thirds of the cases of cerebral hemorrhage recover from its immediate effects. These statistics emphasize the importance of our subject.

Before attempting to gauge the immediate and remote effects of cerebral apoplexy on the intellect, it will be essential to state what the law requires of the testator to make his final wishes valid in its eyes. From "Redfield's Law and Practice of Surrogates' Courts" I find that a testator has testamentary capacity (1) when he mentally comprehends the nature of his act; (2) when he understands the extent and nature of his property; (3) when he knows the person or persons in whose favor he makes the will; (4) when he is unrestrained in the exercise of his will.

It is to be remembered, however, "that the clearness of comprehension and ability of expression which is required to understand the nature of and enter into a *contract* need not exist. The precise time where incapacity begins cannot be defined by an unvarying rule. Each case must be individually tested in the light of general rules and attending circumstances. The testator must have sufficient memory to give proof of testamentary capacity without prompting and to appreciate the particulars of the business to be transacted. Furthermore, the statue holds that "all persons, except idiots, persons of unsound mind and infants," may devise their real estate; and similarly that persons of certain ages and upward of sound mind and memory may bequeath personal estate.

Bearing in mind this liberal view of the law as to the varying intellectual conditions under which persons are entitled to have their final wishes respected, the opinion expressed by Dr. Gallard in a clinical lecture, delivered at La Pitié, on the post-apoplectic mental condition, is significant. The aphasic, he says, is (1) irresponsible, if he cannot manifest his lucidity by words, pantomime or writing; (2) his intelligence is impaired if he manifest his lucidity by words, pantomime or writing incompletely or sluggishly; (3) he is responsible if he manifest his lucidity clearly and intelligently by words, pantomime or writing.

Without discussing the testator's responsibility in regard to any other acts of a civil or criminal nature, if the last two conditions prevail, he clearly comes within the pale of testamentary competence.

Our next duty is to ascertain how we must proceed in order to establish to what extent the testator is capable of performing intelligent acts: As already indicated, intellect manifests itself by words spoken or written and by acts suggesting the meaning of wishes to be expressed, namely, pantomime or gesture. Disregarding for the present the condition of post-apoplectic stupor or semi-stupor, the suggestions made by Wyllie for the systematic examination of the patient supposed to be suffering from one of the various forms of aphasia are valuable guides.

Written or spoken forms of speech and ges-

[1] Read before the Harvard Medical Society of New York.

tures are examined into separately. The danger of overtaxing the impaired brain of the patient should be always taken into account.

1. How is spoken speech received and interpreted? Is the hearing good? Is there any difficulty in interpreting the meaning of words heard (word-deafness, auditory aphasia)? Replies even by gesture only will show whether or not he understands what has been said. Ask him to put out his tongue, shut his eyes, give his hand. Test especially his power of interpreting nouns and verbs. Ask him to touch his nose, eyes and chin as the parts are named; to whistle, shut his eyes and smile. By refraining from giving the patient hints, by gesture or expression of countenance, the answers to the above questions will determine the presence and degree of word-deafness (auditory aphasia).

2. How is spoken speech produced by the patient? When it is reduced to a constantly-repeated utterance, to one or two familiar words, to an emotional or conventional expression, the whole vocabulary should be carefully noted down. When considerable vocabulary can be used or interpreted, (*a*) record words or phrases showing defective powers of articulation. When there is lalling, stammering or slurring, (*b*) look for evidence of amnesia verbalis and its companion symptoms (articulative amnesia and paraphasia). Record his answer to the request to name ordinary objects and note any difficulty in remembering their names or the paraphrasing of nouns. A case in point of the latter condition is that of Bergman where memory for nouns had disappeared. A window being pointed out to her was designated as "that through which one sees." Mistakes in the use of words should be noted. When the patient is dumb, he should be made to write answers to questions, or, as suggested by Lichtheim, indicate on his fingers the number of syllables in the names of objects shown. If there is paraphasia, ascertain whether the person is conscious or not of the error in use of nouns, verbs, etc.

3. How is speech repeated or echoed? If spoken words reveal word-deafness, they should be repeated over and over again and accompanied by gestures or pantomime to make the person understand what is wanted. It is particularly important under these circumstances to extract evidence of competence to make a will valid. If words are echoed or a phrase attempted, it should be ascertained whether they are spoken understandingly.

4. How is written speech received and interpreted? Is the sight good? Is hemianopsia present? Does he understand questions put before him in writing? If he is speechless let him respond in writing to written requests, such as "Put out your tongue," etc. If there is partial ability to interpret writing or printing, ascertain to what extent it exists by showing him writing or printed matter in books or newspapers.

5. How is written speech produced? Let the patient write his name. Let him give written answers to simple questions. If he writes with ease, let him write at his leisure a history of his case. Note whether there is (*a*) paragraphia, corresponding to written translation of paraphasia; (*b*) the constant repetition of a syllable, word or phrase to express different meanings; (*c*) faults of spelling or syntax.

The right hand may be paralyzed or agraphic. Try writing ability of both hands. The ambidexterity acquired by some persons is remarkable. The patient should be made to write from copy and by dictation and examined as to whether he does so understandingly.

6. Examine as to gesture language—pantomime. Does he understand it? Does he employ it intelligently? Is he entirely incapable of employing it (amimia)? Does he employ the same gesture to express different meanings (paramimia)? Is his mind intoxicated with one particular gesture or series of gestures? It is to be remembered that the intelligent use of gesture language may fulfil the requirements of the law as to testamentary capacity.

7. If the patient has by occupation been familiar with or acquired memory pictures of algebraic, geometrical or other mathematical and scientific symbols, or musical notation, their retention or abolition must be inquired into.

8. Examine as to mind, soul or psychical blindness. Does he recognize ordinary objects and the purposes they serve? Does he recognize persons familiar to him before his illness.

9. Examine as to intellectual faculties and emotional inclination. This will vary with the social conditions of the patient.

The result of the above examination must be carefully noted as each negative or positive observation is made. As a check to possible error in judgment of the examiner, other persons should note independently and coincidently the result of their own observations. The latter may serve to furnish confirmatory evidence.

The data essential to the mental status having been obtained, we proceed to obtain from himself, or his friends, the particulars of the family history, namely, (1) organic or functional diseases other than those of the nervous system, affecting blood relations, giving especial attention to diseases of septic origin, diseases of a wasting character, and to intermarriage; (2) organic and functional diseases of the nervous system. We must not remain satisfied with noting instances of apoplexy, insanity, epilepsy, hysteria, neurasthenia, organic disease of the brain and peripheral nerves, but must obtain information regarding habits, idiosyncrasies and temper of near relations. In a similar manner and with attention to even greater details, if possible, the personal history must be entered upon, from childhood forward, not omitting to note (*a*) educational status; (*b*) psychical influences of occupation; (*c*) mental condition under varying exigencies, namely, temper and emotional inclinations; (*d*) habits.

Before passing on to the consideration of the mental status, accompanying various forms of

aphasia, singly or in combination to which, after eliciting the above information, each individual can be assigned, I wish to consider briefly the apoplectic state. For our purposes three forms of this condition are to be considered.

1. The comatose form, developing ordinarily after hemorrhage large in amount or located near nervous ganglia or tracts of critical importance to cerebration. The condition is a familiar one to every physician. It resembles that of meningeal hemorrhage or brain concussion from head injuries, uremic or diabetic coma, profound alcoholism, and the post-epileptic status. The patient cannot be aroused. The intellectual faculties are in abeyance. The individual is irresponsible and cannot perform a rational act. If the patient survive he passes after a few hours or days into the next state.

2. Post-apoplectic state. Motor paralyses are now evident. Sensory disturbances and aphasias may evince themselves upon investigation. The responsibility of the patient may now be determined by examination on the lines already laid down. The eventuality of an acute inflammatory process around a clot or an area of softening must be kept in mind. Delirium and epileptiform convulsions will supervene to indicate this complication.

3. In a third class we include all those cases in which the acute subjective symptoms are transitory. Partial or complete thrombosis, embolism or hemorrhage in the so-called latent area of the brain are the causative factors. Serous apoplexies belong in this category. Motor and sensory disturbances may be slight. Intellectuality is little disturbed. The individual is usually responsible.

Motor paralysis, including the motor or ataxic forms of aphasia, do not *per se* impair the normal activity of those ganglionic centers and nerve tracts essential in the recalling and evolution of memory pictures necessary to the performance of a rational act. In fact it is not an extraordinary occurrence to see individuals centrally paralyzed, active in the ordinary affairs of life. Cases of pure motor aphasia, that is, a hemorrhage the primary and secondary effects of which are so localized as to invalid only the nerve centers in Broca's convolution, are uncommon. Amimia or paramimia is often and agraphia and paragraphia sometimes associated.

To appreciate the significance to the individual of these lesions, we must bear in mind that impressions conveyed to the cerebral centers are (1) innate or elementary. The appreciation of light, of sound and contact are apparently manifested at birth. According to Roose, "Certain looks, tones and gestures, congenital reflexes, exist among the most distinct races of men from infancy." By a process of storage of memory pictures, for which a selective instinct for certain brain areas also is innate, the (2) acquired or cerebral faculties are developed. Memory pictures stored in the cerebral areas devoted to the reception of impressions from their respective senses, comprise the sum total of education. The association, evolution and emission of these memory pictures is characteristic of á normal mental activity. Its interruption through destructive influences brought to bear on the sensory areas and connecting nerve tracts marks the phenomena of aphasia. Memory pictures most firmly impressed by frequency of reception, or in company with some great emotion or at a time when the brain is in a condition of greatest receptiveness, are retained most tenaciously. They also survive destructive influences the longest. Hence the phenomena of apparent mental intoxication of aphasics with certain words or phrases, such as "yes" and "no" or oaths. (3) Finally under abnormal conditions the emission of associated activity of brain areas is set in motion without the control of the will giving rise to the phenomena of subconscious and unconscious mental activity. These interest us only indirectly.

We are now ready to consider the mental status of each variety of aphasia. That of motor aphasia has already been alluded to as causing in its uncomplicated form least intellectual disturbance. It is supposed to be due to a lesion at the foot of the third left frontal convolution. The patient is dumb or capable of attempting only the simplest words or phrases, which, according to the degree of mental intelligence, are apt or irrelevant (paraphasia). He understands spoken language and partly, at least, written speech. While normal articulation is impossible, written speech is, though exceptionally, retained unimpaired. If this is the case the patient is without doubt intellectually competent, as he evinces his capacity for the evolution of mental language which must precede the formulation of representative signs of ideas. He cannot echo dictation in any form, but copies writing and may write from dictation. Amimia and paramimia may be and often are incidental conditions.

Auditory aphasia refers to damage done to the posterior thirds and of the first and second convolutions of the left temperal lobe, resulting in word-deafness. Spoken language conveys no meaning but written or printed matter does. Auditory intelligence being abolished, the patient, therefore, being almost or quite unable to appreciate word values and coherence, may not be able to make himself understood. His speech may be reduced to an intelligible jargon. For a similar reason echoing dictated speech or writing from dictation is impossible. While writing may be copied without difficulty, writing spontaneously may be impossible or convey no meaning.

Gowers considers will-making incompatible with word deafness. If, however, the visual tracts and the tracts between visual centers and motor speech centers are intact, writing and speech is impossible. The individual under these circumstances is responsible. (A patient of Lichtheim could not understand speech, but could read, write and copy speech.) As the well-known Prof. Lordat, who had lost the power of speech and auditory appreciation, recovered

sufficiently to write a history of his own case. Hallucinations of hearing occur.

Visual aphasia, ascribed to lesions of the angular gyrus of the left parietal lobe, is less serious in its effect on the intelligence than the variety just described. The patient ordinarily understands what is said to him, writes upon dictation and expresses himself rationally.

The memory for the meaning of writing or print is gone, nor can he write spontaneously nor understand what he himself has written upon dictation. Hemianopsia is an incidental condition, a factor also in producing hallucinations. The case of Dr. Mills (Hamilton's System of Legal Medicine) is an excellent illustration of the condition. The patient was a woman sixty-six years old who had light lateral hemianopsia; no pupillary inaction; recognized objects seen, heard, felt, smelled and tasted; recognized persons she met, but this capacity failed; confused names of her four sons; understood what was read to her; did not understand printed or written words; could sign name and write a few short words on dictation, but written words were illegible except the word "cat." Although she recognized objects by sight, hearing and touch, she could not name them correctly on seeing them. Said she knew the name but could not recall it. A stamp she called "ticket" or "letter" and pills "pencils"; knew their uses though she named them wrongly. Called postal card "stamp" and watch "key," saying it looked like a key; a bunch of keys were called "locks", but she evidently knew their use. Could not name pocketbook when held up, but did so quickly when she touched it.

Finally we have to consider the mental status of verbal amnesia, soul blindness, the conduction aphasia of Wernicke. This according to Kussmaul is the severest form, leading to confusion of thought and diminution of intelligence. The patient is ordinarily irresponsible. The lesion is in the concept area of the brain, located by Wernicke in the convolution of the island of Reil. The condition results from the cutting off more or less completely of the connecting nerve tracts between the concept area and the areas in which are stored auditory, visual and motor word memory centers. Patient may understand spoken or written speech and copy writing. There may be inability to echo speech. Paraphasia and paragraphia prevail. The use and understanding of gesture speech may be lost. Bergman's case in which nouns disappeared has already been referred to. Starr gives a case where paraphasia progressed to total aphasia. Though the person knew the disposition he wished to make of his property he could not indicate it by word of speech or writing. The condition may be appreciated by studying Lichtheim's diagram of all forms of possible aphasia. It must be remembered that in the course of weeks or months all forms of aphasia may improve or even entirely disappear.

The following are illustrative cases of apoplectics whose wills were contested. Baltman reported in 1743 the case of a resident of Mindon, Hanover, whose will made by signs was sustained. Another man sixty-three years of age, a hemiplegic and aphasic, made his will by signs, but it was not sustained as his mark was in the middle of the card instead of at the end of it. In the Parish will case reported by Dr. Mills, the first will was made when the testator was fifty-four years of age. The year following had a stroke from which he recovered. Seven years later he became paralytic and aphasic from a severe stroke and developed epileptic fits. The first codicil was made six weeks after the last apoplectic stroke. Four years later he executed a second codicil, five years later, a third codicil. The Supreme Court and the Court of Appeals decided against all three codicils.

Mrs. Fillmore, widow of President Fillmore, whose case is reported by the late Dr. Landon Carter Grey, maniftested symptoms of impaired mentality before she had an apoplectic stroke. She executed two wills within eight months of the stroke. On Dr. Grey's testimony she was judged to be insane and incompetent. The following case is reported by Dr. C. K. Mills (Hamilton's System of Legal Medicine). A man was married to a woman, after he had been living with her and had had children by her. The marriage was legally consummated. After an attack of apoplexy with aphasia, he could answer questions intelligently. The marriage was considered valid and the will in the wife's favor was sustained.

A case in which I was asked to give testimony was that of a woman, over seventy years of age, who had two apoplectic strokes at an interval of about four weeks; after the first stroke she became hemiplegic, spoke sluggishly and with some difficulty, but apparently suffered from no distinct form of aphasia. She understood what was going on about her, gave directions as to household affairs; was able to recall occurrences of recent and remote date, had frequent spells of somnolence. About ten days after the first attack of apoplexy she executed her will. Its validity was sustained by the Surrogate and the case was not appealed.

SURGICAL DIAGNOSIS.[1]

BY JAMES J. MCKONE, M.D.,
OF TACOMA, WASHINGTON.

DIAGNOSIS is the art of discerning a given morbid condition, recognizing its character and distinguishing it from a condition of health or disease of another kind.

The judgment formed in this manner in a narrow sense is simply giving a name to a disease, but from a broader view it consists of something more than this. It shows how the whole organism has been affected from the beginning, the character of the ailment and how the organism as a whole has been affected, or how it has acted locally. The severity of the disease and the pa-

[1] Read before the Pierce County Medical Society.

tient's prospects are arrived at by this method which is alone the sure guide to treatment.

We attain a diagnosis only by having our preception of the behavior in a general manner of the patient sharpened and by carefully combining with it the experience derived from previous examinations. Diagnosis is partly an art and partly a science; an art because it demands a cognizance of the means and their application to arrive at the desired result; a science because it comprehensively takes accounts of general facts and of principles based on those facts.

By surgical diagnosis I mean the differentiation of those diseases which are liable to require operative treatment, but there can be no hard and fast rules at the present time between medical and surgical diagnosis for the one must be associated with the other, as the majority of all surgical cases first seek the physician. It is, therefore, very important for the latter to be well versed in the recognition of surgical affection, as only by the prompt resort to surgery in manv diseases can the patient be given the best means of recovery.

Surgical diagnosis was given prominence as far back as 1500 B. C. when in the Papyrus Ebers then written it says: "If this tumor goes and comes under your finger, trembling even when your hand is still, say it is a fatty tumor, and treat it with the knife, after which treat it as an open wound." The writings at that time also laid stress on stone in the kidney followed by abscess with directions to cut for it, also articles on dislocation and fractures.

In ancient times the surgeon was not supposed to be a diagnostician, but to work only under the direction of the physician, who belonged to the nobility, while the surgeon was inseparably connected with the barber.

The celebrated John Hunter, who lived between 1728 and 1793, did much to encourage the surgeon to be a physician also. The margin between the two gradually grew less until a surgeon became a physician to a greater or less degree, and the surgeon then diagnosed as well as treated his own cases.

It is often said of prominent surgeons that they lack diagnostic ability, this comes in part from the ancient times when they acted simply under the instruction of the physician, but more from the fact that their technic and skill at the present time are so marvelous that their diagnostic ability suffers by comparison, and again the surgeon's mistakes become at once apparent when the disease is laid bare by the knife, while a physician can go on treating a case with no opportunity to disprove his judgment. Taking all the facts into consideration I have no doubt that the surgeon will compare favorably with his brother medical man.

The qualifications of a surgeon were formerly put down that he should "have the eye of an eagle, the heart of a lion and the hand of a woman." The eagle's eye and the woman's hand are still very necessary, but the lion's heart, as it was understood in those days to be one who would not be deterred by the cries and struggles of his patient, since the days of anesthetics has no place in our profession. It also probably refers to the courage required to operate in pre-aseptic days.

The principal qualification of the surgeon at the present time is that he be a good diagnostician, as it is for this purpose he is mainly called in consultation, *i. e.,* to see whether or not the patient is suffering from a medical or surgical disease. For that reason a man who is not a good general practitioner will never become a successful surgeon. For how else would he be able to weigh all the evidence in the different cases. He must know well his anatomy, his physiology, his bacteriology, the natural history of disease and his acquaintance with human nature not too limited. We often see hysterical joints treated for other affections, or two different diseases in the same patient, one a medical and the other a surgical disease. With how many different affections might not a subacute inflammation of the gall-bladder be confounded? Who has not been called to a case of pneumonia and found a patient suffering at the same time from some septic condition in a distant organ? Time and time again we see acute osteomyelitis treated for rheumatism and I might add disease of the hip-joint and aneurism mistaken for this affection. For this reason a general practitioner should keep thoroughly posted on all surgical diseases whether he intends to operate or not. You cannot separate the two. A man may become so expert in one branch that the number of his patients in that particular line will become so numerous he must give his whole time to that department of medicine, he then becomes a specialist because his skill has made him so and long years of practice have particularly adapted him to readily recognize those diseases, but this, I am sorry to say, is not the evolution of the modern specialist. He is a specialist before he is a general practitioner, and every case is diagnosed from the standpoint of his own specialty.

I have said the principal qualification of a surgeon is to be a good diagnostician. This is at times varied with the popular notion that a surgeon should be a good cutter. Now the cutting has very little to do with it. We can teach a man of any mechanical ability in fifteen minutes how to amputate a leg. Any butcher can amputate a limb, but it takes a surgeon to save one. We charge five dollars for doing an operation and four hundred and ninety-five for knowing what to do. In the principal operations the question is to know what to touch and what to let alone. The hand must be trained to feel, the eye to see, the ear to hear and the mind to think. But we may be told this belongs to treatment and not to diagnosis; this is true to a degree, but while one is operating the conditions one meets must be diagnosed as the operation proceeds and in many cases we diagnose by the operation. This fact led many surgeons to group diagnoses of the abdominal cavity,

claiming something existed which did not belong there—when a tumor was found—and that the foreign body must be removed whatever its nature, and there was time enough to diagnose when we had it in our hands. This is sound advice, as a general rule, but there are many exceptions, as when the question arises as to the connection between a certain growth, suppuration or other morbid condition and the general state of the patient, whether it is the cause or effect or is independent.

It would be folly to submit a patient suffering from a benign tumor of the uterus to a hysterectomy, when said patient had a pleura filled with pus, yet I have seen this done under the mistaken idea that the suppurative symptoms were due to the tumor.

In diagnosing a case, first consider the history of the patient. This is one of the most important things in making a correct diagnosis. Find out the length of time the trouble has existed, how it first commenced, the nature of the accident or injury, and the amount of suffering or inconvenience connected with it. You all remember the old story of a college professor who, when lecturing on diagnosis to his students, brought in an unconscious man with a swollen jaw. He then asked the students to diagnose the case without an examination or a history; one said the swelling was a fatty tumor, another said it was a cyst, another said it was a bony tumor of the jaw, and so on, as many different diagnoses given as there were students. Then the old professor opened the man's lips and turned out a quid of tobacco—the man was drunk.

Next comes inspection. This must always be one of our first diagnostic efforts. If the abdominal walls are rigid and fixed, we should suspect peritonitis; if severe pain exists which is relieved by pressure and associated with restlessness, colic may be suspected; if we can see the intestines contracting through the abdominal wall, obstruction is probable, and in these cases, especially if vomiting be present, always inspect the hernial openings; if the prominence is more on one side than the other, then ovarian tumor should be suspected; an enlarged kidney may bulge in the right or left abdominal region, while a descended bladder may occupy the whole abdominal region. The umbilicus should be observed. It is flattened in ovarian tumor and bulges in ascites. Local edema over a tumor frequently shows whether it is a growth or an inflammation. Thinning of the skin is often well marked in ovarian tumors.

Palpation is next performed and is also very important. With the hand flat, feel the edge of the liver; note its size, its shape and degree of hardness; special resistance over any part may point to disease. When a tumor is discovered, palpation may bring out its degree of hardness, size or fixation. Pulsation may be elicited if expansile dependent on aneurism or rapidly growing sarcoma. If non-expansile it may be a solid tumor which rests on the aorta. We may also determine whether the tumor is solid or fluid, movable or fixed. In palpating distinguish whether the tenderness is superficial or deep seated. For instance the reflected pain of appendicitis is usually above the umbilicus, while the deep pain is at McBurney's point. Again, the reflected pain of ovarian inflammation may be in the costal region, while the deep pain is in the ovary itself. Free fluid in the abdominal cavity does not give rise to a splashing sound, while in a dilated stomach when mixed with air this sound may be heard. Vaginal examination for pelvic disease is of great importance. In the case of tumors their connection with the uterus can be made out and the character of the growth may also be determined. If hard nodules can be felt in the peritoneal pouch with a history of failing health, malignant disease can usually be diagnosed. Cancer of the base of the bladder can also be felt with the finger in the vagina.

Rectal examination is no less important than the vaginal. By this means any effusion in the pelvis, the tubes or the ovaries, can be examined; also the pelvic glands and the general contour of the pelvis.

Ausculation must not be omitted. Listen for fetal heart sounds and placental bruit in all cases of suspected pregnancy.

Pain may be absent, but is present in most cases. Note the degree of suffering, how it originated, its location. If it has its chief seat over the cecum or umbilicus, it is probably appendicitis. If it is in the right costal region below ribs and the patient has had several attacks and the pain passes back to the scapula, and especially if some seizures have been followed by jaundice, gall-stones are the probable trouble. If pain is ovarian it is generally referred to the front and down the thighs. Stomach pain usually radiates to left scapula region, while gall-bladder pain radiates to right scapula region. The explanation of this lies in the connection between the sympathetic nerves which pass along the blood-vessels and the corresponding spinal nerves. For instance, in appendicitis, although the disease is of cecal origin, the first pain complained of is nearly always at the umbilicus or just above it. The reason for this is that the appendix receives its blood-supply from the superior mesentric artery and the nerves which accompany it communicate with the spinal nerves at a higher point than those which supply the descending colon. (Warren and Gould.)

To facilitate diagnosis we should always employ all the aids at our command. The microscope, the X-rays which, however, have been somewhat disappointing, for on account of the thickness of the muscles of the loin and the abdomen we have not been able, as we first expected, to make out renal biliary calculi. The X-ray is still, however, quite useful in fractures and dislocations.

We should not overlook the examination of the urine, both chemically and microscopically. The vomited matter and feces should also claim our attention.

Always compare a diseased member with the sound member. When called to an accident in the street or in a public place, where a minute examination is impossible, never venture a diagnosis, because a patient may be injured in several different parts of the body. He might have a compound fracture of the ankle and at the same time a dislocation of the hip. The chances are in the majority of these cases of accidents that the patient when taken home will call his family physician, and if we should overlook an injury which he might discover on account of his better facilities for examination we should surely be blamed and our reputation would suffer in consequence. For this reason we should have the patient removed at once to his home or to a hospital where a thorough examination can be made, calling in a brother practitioner if necessary. Begin at the head, examine the skull, the face, then the neck, passing the hand over the trunk, examine the ribs, then examine each bone separately, if the patient is unconscious and unable to locate his pain. If patient is unconscious and suffering from a supposed injury of the joints or a fracture, give him an anesthetic and examine the part thoroughly, so, if anything should happen in the future, we can at least show that we have done our duty as far as surgical skill can.

STATIC ELECTRICITY IN THE TREATMENT OF SPRAIN.

BY LEONARD C. STANFORD, M.D.,
OF NEW YORK.

BEFORE recounting the following cases, I desire first to describe briefly the method of application. The electricity is generated from a Holtz machine of the largest size. The patient is placed on an insulated platform, which is connected with the negative pole of the machine by a brass rod. An electrode connected with the positive pole by a brass chain gives off the spark, after the circuit has been completed; the length of the spark being from two to four inches. The application is made over and around the painful areas by the positive electrode. The administration lasts from ten to fifteen minutes, and is occasionally broken by a short intermission. This in very short outline was the method of treatment pursued in the treatment of sprain in the patients whose histories in brief are recorded. Most of the injuries occurred on the football field and they offered a wide range for the application of this remedial agent.

Case I.—A. Sprain of ankle. Injury sustained a few hours before treatment. Ankle had been previously sprained and patient incapacitated for two weeks. At time of present injury had just recovered from first. Examination showed ankle slightly swollen, exceedingly tender over internal lateral ligament. Patient walked with a cane. Electricity was used, as described, with marked immediate relief. Patient walked without pain for several hours. There was decided improvement on the following day. Daily applications of electricity were made for five days, when the patient experienced no difficulty in walking. Two or three days later played football with no subsequent injury to ankle.

Case II.—G. Sprain of ankle. Patient was seen day after the accident. Examination showed swelling and tenderness over internal lateral ligament. Patient used cane. He was treated twice a day for two days, daily for four days, every two or three days for two weeks. He walked without pain or limp on the sixth day, but experienced considerable difficulty in playing football from inability to stand on his toes on the injured side. He played regularly about two weeks after the injury.

Case III.—B. Sprain of ankle. Patient was seen immediately after injury. Examination showed right ankle tender and somewhat swollen over both lateral ligaments. Patient on crutches. After one application of electricity, patient walked in office without crutches. Treated twice on subsequent day, daily for three days after. Walked without difficulty on the seventh day. Some few days later, turned the same ankle and received daily treatment for one week. During this time, walked with a cane, at the end of it, without.

Case IV.—K. Seen soon after injury. Right ankle swollen. Marked tenderness over external lateral ligament and head of malleolus. Treated daily for three days. Every other day for ten days. Walked without difficulty in one week. Patient subsequently had persisting pain on pressure over head of fibula, apparently in the bone. This pain was not relieved by electricity. It, however, did not interfere with his walking.

Case V.—G. Patient was seen day after injury. Examination showed some tenderness over internal lateral ligament. No swelling. He limped slightly. There was marked relief after the first application of spark. He walked without pain. Seen subsequently twice, on successive days. Played football about four days later.

Case VI.—McC. Patient was seen soon after injury. Examination showed swelling and tenderness over both lateral ligaments. Patient on crutches. Relieved after the first treatment. Application daily for three days, every other day for two. Walked comfortably on fifth day.

Case VII.—W. Patient was seen on the afternoon of injury. Examination showed swelling and tenderness over both lateral ligaments. Patient on crutches. Treated daily for four days, every other day for two. Marked improvement from the start. Walked easily on the sixth day.

Case VII.—S. Patient was seen immediately after injury. Examination showed ankle very much swollen; swelling reaching well above the ankle. Great tenderness. Patient on crutches. The relief in this case was specially marked. He received daily treatment for six days, every other day for two. Walked with comfort on the eighth day.

Case IX.—W. Patient was seen immediately after the injury. Examination showed the ankle

to be much swollen and very painful. As it was impossible to use electricity at once, cold applications were made until the following day. When seen then the ankle was extensively swollen, the tenderness had somewhat abated. Patient, however, suffered even on crutches. Treated daily for six days. Walked without crutches on the fourth day, without a cane on the eighth day. Played football in about two weeks.

Case X.—McB. Synovitis of knee. Examination showed slight effusion in synovial membrane of the knee. Joint painful. Electricity relieved the pain to some extent. There was not much improvement in several successive applications, therefore other treatment was employed.

Case XI.—L. Patient was seen immediately after injury was sustained. Examination showed the knee joint to be swollen on the inside and very tender. No effusion. Patient on crutches. Treated daily for five days. Walked comfortably at the end of this time. There was marked immediate relief from pain after the application of electricity in this case.

Case XII.—T. Synovitis of knee. Patient had suffered from several previous attacks of synovitis of the knee. He was seen ten days after his last injury. Examination showed the knee to be swollen and painful. The structures about the joint were thickened, there was, however, no effusion. Patient complained particularly of pain on the inside of knee and weakness and he could not walk without support of bandage and cane. Treated daily for several days. At the end of this time the joint was much less painful and stronger. He walked without bandage and cane in one week.

Case XIII.—R. Synovitis of knee. Examination showed marked effusion. No special result followed two applications of the spark, and treatment was discontinued.

Case XIV.—W. Synovitis of knee. Examination showed extensive effusion in right knee joint. Electricity gave no relief, and other means were employed.

Case XV.—K. Synovitis of knee (severe). One application of electricity relieved the pain to a slight degree. Subsequently it seemed unsatisfactory, and patient was treated otherwise.

Case XVI.—O. Muscle bruise of thigh, very much swollen and exceedingly painful. Patient on crutches. The lesion, although extensive, seemed superficial. The patient was relieved at once, and after daily treatment, walked comfortably in about a week.

Case XVII.—O. Severe muscle bruise of thigh. Examination showed extensive swelling and tenderness of structures, extending from knee to hip. Relief from electricity proved but slight, and patient was treated by other means.

Case XVIII.—C. Synovitis of knee. Patient was seen one month after injury had been sustained. Plaster cast had just been removed from knee. Examination showed no effusion. Knee tender on both sides of joint. Patient on crutches, absolutely unable to bear his weight on injured side. Tenderness was relieved to a marked degree after the first application of electricity. Walked without crutches five days later, having received daily applications of the spark. Walked comfortably without pain ten days later.

Case XIX.—C. Woman forty-five years old. Well in every way to one year ago, when she struck her left knee against a table. During the few days following she suffered severely, and was in bed for a week. At the end of this time acute symptoms mostly subsided. She was unable, however, to walk without pain, and this continued some time. Examination at this time showed some swelling on the inside of right knee joint. Slight tenderness on pressure. Cartilage thickened. Atrophy of one inch, measured six inches below patella. Patient walked with a cane and with considerable effort. A single treatment with electricity relieved her pain considerably. This was repeated daily for one week. During this time patient was freer from pain than at any time since receipt of injury. At the end of two weeks walked comfortably for a short distance without any support. At the present time walks everywhere without discomfort. She receives electrical treatment every three or four days. Atrophy January 1st was one-half inch.

The first eighteen cases quoted constitute a small portion of the number of cases treated in a similar way that have come under the writer's observation. They afford, however, sufficient material for a few conclusions.

1. For sprains with little or no effusion, as, for example, sprains of the ankle, the spark affords a very satisfactory means of treatment. There is immediate relief, which lasts from two to four hours. At the end of this time, some reaction follows, depending directly upon the amount of work put upon the injured limb. Aside from this immediate relief, there is a marked permanent improvement in the majority of instances. In the ordinary cases of sprained ankle, daily applications of the spark made for five to seven days were sufficient to remove all lameness, and the patient walked with comfort a day or so later and in many instances played football. Where it was necessary for a man to use his ankle for football, if the joint was somewhat weakened, various means of support were used.

2. In those cases in which effusion was present to any extent, as, for example, synovitis of the knee, the spark, while for a short time relieving the pain when it existed, seemed to have but little effect otherwise. In these cases, however, after the effusion had been removed by other methods, it was a valuable aid in stimulating and strengthening weakened structures.

The results obtained by this method of treatment in injuries of long standing are not generally as satisfactory as in the acute variety; yet, it seems from Case XIX., as quoted, there are certain instances where it may be of great value.

Care should be exercised in its administration, as occasionally an unpleasant reaction follows. This occurred twice in the writer's experience.

In one instance one hour after the administration of the spark a patient treated for a sprain of wrist suffered a chill and rise of temperature. Constitutional symptoms of some severity supervened and persisted for three days. She was, however, in an unsuitable condition at the time of administration, having been confined but two weeks previously. In a second case the patient with a sprained ankle suffered from a chill and rise of temperature an hour after the administration of electricity. Subsequently this attack proved to be typical quotidian malaria, the occurrence of which might have been influenced by the electrical treatment.

MEDICAL PROGRESS.

Roentgen-Rays and Carcinoma of the Breast.—A. CLARK (*Brit. Med. Jour.*, June 8, 1901) has used the Roentgen-rays in carcinoma of the breast. In one case, after such treatment for nine weeks, marked improvement was shown. The tumor diminished in size, the ulceration diminished and became studded with patches of of epithelium; pain was decreased to a marked degree. Later the glands of the axilla became decidedly smaller. The rays are employed five days a week for fifteen minutes at a time. At the end of the nine weeks the patient's general condition was markedly improved, though she received no medication.

Ringworm.—In speaking of the treatment of tinea tonsurans or ringworm, A. RAVOGLI (*N. Y. Med. Jour.*, June 29, 1901) says that any substance capable of producing the casting-off of the epidermis will be sufficient. On the extremities, a solution of bichloride or iodine or a mixture of chrysarobin and resorcin will be sufficient, but when a hairy surface is affected, the follicles become invaded and epilation is usually necessary. If on the scalp a mixture of crude coal oil and olive oil may pe rubbed daily on the scalp by means of a strong paint brush. Pustulation may result, but this is beneficial. Another more elegant method is to use a one-per-cent. solution of bichloride to moisten the sponge attached to the positive pole of a battery and apply this to the diseased area for about one-half hour each day. He believes that children should not be kept from school, but arrangements should be made so that they could be properly isolated and treated at school by the teacher under the direction of the physician. Barber-shops are a very common source of infection and will continue to be so till sterilization of utensils after use is made compulsory by law.

Skiagraphs and Their Medico-Legal Relations.—The indiscriminate employment of skiagraphy for fractures is unnecessary. Most fractures can be diagnosed without this means, but H. GOLDING-BIRD (*Brit. Med. Jour.*, June 8, 1901) says there are two classes of doubtful cases in which skiagraphy is most advisable, those in which certain of the existence of a fracture, the surgeon does not know its extent or exact location, and those in which the existence of a fracture is doubtful. By this means the physician will protect himself. Often the skiagram will show a most irregular outline of bones which have been fractured though, the functional activity of the part involved is perfectly satisfactory. One who is not an expert may mistake epiphyseal lines for fractures. A foreshortened view may resemble in the neck of the femur an impacted fracture. Fracture at the base of the olecranon is simulated when the light is directly over the bend of the elbow. The acromioclavicular joint resembles a fracture. The appearance of a gradual thickening of bone can be produced at will. Fractures may be overlooked. The line of light caused by a fracture can always be seen, though the irregularity of the bone outline may be completely masked, thus hiding a fracture. One may overlook a fracture in ribs or vertebræ. The center of ossification in the ends of young bones may look like detached bone. Bones of the skull (base) with extravasated blood may not seem fractured. As rarely callus does not show in skiagraphs, it may seem as if fracture still exists with separation of the bone ends. Foreshortening and want of parallelism between bone and plate can produce distortion, the latter giving an appearance of gradual thickening or expansion of the bone. The interpretation of skiagraphs must always be made by an expert.

Apical Presystolic Murmurs.—C. C. GIBBS (*Lancet*, June 8, 1901) says that the following conditions are met with when presystolic murmurs are heard at the cardial apex: Obstruction of the mitral orifice, due either to sclerosis or adhesions, or to the invagination of an auricular thrombus; simple dilation of the mitral orifice; roughening of the margins of a normal-sized mitral opening; insufficient aortic valves, with normal mitral opening; a simple dilated mitral opening or a dilated mitral opening with thickened appendages. The author is certain of the fallacy of the Gairdner theory of the presystolic murmur being caused in the auricular systolic blood-current. Anatomical and pathological conditions do not support this conclusion.

Spasmodic Constipation.—Two forms of spasmodic constipation are distinguished by MAZERAN (*La Presse Méd.*, June 22, 1901). The first is an independent affection; the second is symptomatic, depending on a variety of causes, including especially disorders of the genito-urinary tract, traumatism of the abdominal wall, hepatic colic, stone in the ureter, gravel, intestinal parasites, foreign bodies, hemorrhoids, rectal fissures and fistulæ. Primary spasm is most common in young females and neurotic males or brain-workers. There is frequently an exaggeration of the constipation in women before the menstrual period; rarely is there deficient assimilation or loss of weight. There is an absence of dyspeptic history. Sensitive abdomen, meteorism, undulatory peristaltic zones, pseudotumors

due to contraction, tenesmus, passage of odorless gas, gastric hiccough and thoracic constriction, are characteristic. Purgative treatment is absolutely negative and antispasmodics are indicated; belladonna, asafetida and zinc valerianate are useful. Physical measures include the use of the abdominal douche, sitz-baths, massage, and enteroclysis. Curative treatment is above all hygienic.

Influence of Lecithin on Metabolism.—The experiments of DEGREZ and ZAKY (*La Semaine Méd.*, June 19, 1901) as to the effect of lecithin, have important therapeutic application. Injected subcutaneously or administered by mouth to guinea-pigs and dogs, lecithin in doses of 5 to 6 centigrams caused a marked increase in weight. During the period of treatment there was observed a marked increase in urea and in total nitrogen eliminated, and a diminution in the phosphoric acid of the urine. Evidently lecithin favors the utilization of phosphorus in the economy.

Porro-Cæsarian Section for Placenta Prævia Centralis.—A Porro operation for placenta prævia was reported by Lawson Tait in 1899. W. J. GILLETTE (*Boston Med. and Surg. Jour.*, July 4, 1901) reports a similar case. The os was dilated as large as a ten-cent piece and every attempt at forcible dilation was accompanied by hemorrhage which could not be controlled by tampons. The patient had already bled furiously and had a weak pulse of 140. As further hemorrhage threatened her life, Cæsarian section was performed. The uterus could not be induced to contract and free the placenta, so the latter was peeled off manually, after which, contraction being still unobtainable, the uterus was amputated above a rubber cord previously placed around the cervix.

Leucocytes in Gastro-enteric Diseases in Infancy.—The normal leucocyte-count in infants under ten months, according to recent studies by JAPHA (*Jahrb. f. Kinderheilk.*, 1901, p. 179) averages 13,500. The individual count in children of the same weight and age varies greatly. Mononuclear cells predominate, the average number of polynuclear cells being 42 per cent. In dyspepsia, infantile atrophy, and gastro-enteritis there is no change in the proportions of the various sorts of white cells. In follicular enteritis and cholera infantum, with marked intestinal lesions, there is an absolute increase in the total leucocytes and a small relative increase in polynuclear cells. Milder cases of follicular enteritis show no alterations in the proportions of the leucocytes. Japha maintains that the lymphocytosis described in intestinal diseases in infancy does not exist. The fact is that there are many more lymphocytes in infants than are found in adults.

Forced Flexion and Adduction in Sensitive Hip-Joint.—As a temporary measure in cases of extreme sensitiveness of the hip-joint with persistent night-cries, E. H. BRADFORD (*Boston Med. and Surg. Jour.*, July 4, 1901) tried putting out of action the muscles connected with the spasm which caused the cries. The child was etherized and a plaster bandage applied to the limb which was forcibly flexed and slightly adducted. A complete cessation of night-cries followed. A month later the limb was again placed in a straight position with traction and a recurrence of the night-cries took place.

Fixation of Preparations of Blood by Chloroform.—JOSUE (*La Semaine Méd.*, June 19, 1901) recommends chloroform as a fixing agent for cover-glass preparations of blood. After drying in the air the preparation is plunged in chloroform for two minutes and allowed to dry again before the stain is applied. The author believes that this method of fixation results in more perfect coloration than can be otherwise obtained, for example, with Ehrlich's tri-acid stain.

Widal Reaction.—Although four years have elapsed since Widal's publication of his serum reaction, most of his statements, according to TOBIESEN (*Zeitschrft f. klin. Med.*, Vol. 43, No. 1 and 2), are still adhered to, with one signal exception, however, namely, the proper dilution. While Widal stated that an agglutination occuring after a dilution of 1 to 10 is sufficient, most observers are agreed that a safe diagnosis can only be made if it occurs in 1 to 50. The writer has tested the reaction on material collected over three years, using different attenuations, from 1 to 10 to 1 to 200 Of 350 clinically undoubted cases of typhoid the reaction was positive in 329 with 1 to 50; 17 gave the reaction only with 1 to 10 or 1 to 25, while in 2 a weak reaction could only be obtained with a dilution of 1 to 5, and in 2 no agglutination was present during any period of the disease. One hundred and fifty-one cases suffering from various other diseases, such as tuberculosis, croupous pneumonia, bronchopneumonia, influenza, scarlet fever, rheumatism, cerebrospinal meningitis, pyemia, enteritis and infectious diseases of the urinary organs, were also examined with the following results: The Widal was positive 1 to 25 in 4, positive 1 to 10 in 25, and negative 1 to 10 in 122. Of the first four, three died of acute miliary tuberculosis, calculous pyelitis and tuberculous meningitis, respectively, the fourth, suffering from pleuritis probably tuberculous in nature, recovered. Sixty-one healthy persons who never had gone through a typhoid were also investigated. One gave a positive reaction 1 to 25, 8 positive 1 to 10, and 52 negative 1 to 10. It is necessary to carry on the reaction at all times under precisely the same conditions (1) by using the same growth of bacilli, (2) by having the broth of a definite composition, (3) by employing the same temperature and growths of the same age, usually twenty hours. In all cases the slide was set aside for two hours at room-temperature before examined. The earliest appearance of the reaction with relation to the duration of the typhoid proved to be an entirely inconstant factor, though in the majority of cases it was present by the end of the first or beginning of the second week. Two hun-

dred and ninety cases tested in this direction gave in the first week 138, in the second 111, in the third 30, and in the fourth 11. These figures are not, however, very reliable, since it often is difficult to place definitely the beginning of the disease from the history of the patient and since many patients do not present themselves for a serum reaction until already well advanced in their disease. Rarely a reaction is obtained only during the relapse. There is no definite relation between absence or presence of reaction on the one hand and probability of relapse on the other, nor between strength of agglutination and severity of disease, which makes the reaction valueless from a prognostic point of view. With convalescence, the agglutinating power of the blood rapidly diminishes, yet a few cases who were tested one or two years later still gave the reaction in a dilution of 1 to 50 to 1 to 10.

Etiology of Carcinoma.—E. v. LEYDEN (*Zeitschrft f. klin. Med.*, Vol. 43, No. 1 and 2), who strongly adheres to the parasitic theory of cancer, relates how he first saw peculiar bodies in the ascitic fluid of a young girl suffering from ovarian carcinoma. These bodies appeared as large, oval cells which extended pseudopodia in a remarkable manner for from one to two hours, the movements finally ceasing without any subsequent retraction of the processes. Similar bodies were found in pleural exudates of cases of carcinosis, in the fresh juice from carcinoma and melanosarcoma. By accident it was found that a decoction of *Chrondrus crispus* (Irish moss) forms an excellent culture-medium for growing these bodies from small tumor-masses. A number of tumors were then investigated microscopically and in all of them epithelial cells which besides the nucleus contained a number of vacuole-like structures, with central reddish-stained dot, were found. They showed a remarkable resemblance to certain amebæ and could be well distinguished from the granules resulting from degeneration of the cell or its nucleus. The author concludes that in all probability the cancer-parasite is a protozoon and not a yeast. The same subject is treated by ROSWELL PARK (*Buffalo Medical Journal*, July, 1901) who briefly reviews the work done by the Buffalo Laboratory. The arguments he advances in favor of a parasitic etiology are many and well-nigh conclusive. Tumors occur in trees and plants, as well as in the lower animals, which bear a certain resemblance to carcinoma in structure and which are known to be parasitic. The occurrence of metastases, the local infectivity, and, finally, the presence of strange bodies in the cells are highly suggestive. The recent study of the latter has solved the problem. There remains, however, much to be done to investigate the true nature of these micro-organisms, the exact position of which in the animal kingdom is not yet clearly defined.

The Clinical Thermometer as a Medium of Infection.—This subject has recently been investigated by ROSENBERGER (*Proc. of the Phila. Path. Soc.*, May, 1901) who by a series of experiments has shown that the ordinary practice of washing the thermometer in water and subsequently wiping it with a clean towel or keeping in the thermometer case a pledget of cotton moistened with antiseptic solution are insufficient means for its disinfection. Thermometers so treated and subjected to bacteriological examination invariably showed the presence of micro-organisms. As the result of this work he draws the following conclusions: (1) It is possible for the thermometer to be laden with the usual flora of the oral cavity; (2) such bacteria retain their capacity for growth for at least two months; (3) many pathogenic bacteria possess the same capability; (4) each patient should be possessed of a thermometer as his own property, but when this is not possible the thermometer should be thoroughly disinfected before using; (5) the custom prevalent in hospitals of keeping thermometers in disinfecting solutions is to be commended.

Hydrophobia.—Undue importance is undoubtedly attached to many of the startling discoveries of recent years, and this can be readily understood in connection with a disease such as hydrophobia when the popular mind is horrified by the agonizing deaths that are pictured and where so much uncertainty exists in regard to an actual infection. C. W. DULLES (*Med. Rec.*, July 13, 1901) believes that, although the Pasteur treatment is founded upon a scientifically proven basis, the majority of cases which are treated in such institutions are brought there through unwarranted fear and often taken advantage of by the physicians in charge who wish to make the percentage of recoveries as large as possible. Of course, it is impossible to say that a patient, who recovers after being bitten and subsequent treatment without any symptoms of hydrophobia, was or was not really infected, but the enormous increase in the number of cases since the Pasteur method of treatment was instituted leads one to believe that a large percentage were never infected at all. It is somewhat strange that the vast majority of deaths attributed to hydrophobia have followed bites by unsuspected dogs, so that dog-muzzling laws should be made more general and rigid, and the community should have full and constant protection against dog-bites irrespective of questions in regard to hydrophobia.

Books as Carriers of Contagion.—KRAUSZ (*Zeitschr. für Hygiene u. Infectionkrankheiten*, June 18, 1901) has by a series of experiments confirmed the already existing ideas along this line. His investigations were carried on in five different kinds of material, (1) new paper ready for the press, (2) newly printed sheets, (3) newly printed sheets fastened into blocks, but not bound, (4) newly bound books not yet sold, (5) books which had been in use. From

these various sources he cut small strips of paper and under antiseptic precautions introduced them subcutaneously and intraperitoneally into guinea-pigs. Of eleven thus inoculated intraperitoneally three died in forty-eight, fifty-one, and sixty-three hours respectively and showed on autopsy the lesions of purulent peritonitis. All those who died had been inoculated with paper from used books and none of those inoculated with new paper or paper from new unused books were in any way affected. He then inoculated tubes of nutrient bouillon with slips of paper from the above-named sources. Paper from new unused books produced in twenty-four hours very little growth in such bouillon. Paper from old books always showed abundant growth. Guinea-pigs inoculated intraperitoneally with 1 c.c. of a series of such bouillon growths showed the same results as those obtained in his first experiment. Guinea-pigs inoculated intraperitoneally with paper from old books which had been sterilized in the autoclave never showed any effect from such inoculation. Tubercle and typhoid bacilli may remain alive a long time when dried upon paper, the former from twenty to eighty days. The best means of disinfecting books is by means of formaldehyde gas, but when subjected to this they should be so arranged that all the pages are exposed. Books that have been over three months out of use do not need disinfection, as any micro-organisms with which they might have been contaminated would have perished within this time. School-books and books from libraries should be disinfected at regular intervals.

Treatment of Hay-Fever.—In this era of antitoxins it is not surprising that various attempts should be made to immunize patients to diseases which they seem very prone to acquire. H. H. CURTIS (*Med. Rec.*, July 13, 1901) reports the use which he has made of preparations from certain weeds, especially ragweed, and various flowers, in order that by the administration of small doses of this poison the body may develop an immunity to the pollen of those flowers. The fluid extract of ragweed was combined with aromatics and distributed under the name of *Liquor Ambrosia* among a large number of physicians last summer. The reports in a large percentage of cases were most satisfactory, and he believes that the cases which did not respond might have been due to other exciting causes, or that they were given the remedy after the attack had begun. A more thorough investigation is to be made this year.

Cause of Cancer.—A number of propositions in regard to the present status of the carcinoma question are made by N. SENN (*Med. Rec.*, July 13, 1901) and much concise, valuable knowledge is given. Carcinoma is a humor resulting from anatypical proliferation of epithelial cells from a matrix of embryonic cells of congenital or post-natal origin. The law of the legitimate succession of cells holds true in the origin and growth of tumors, both benign and malignant, as well as in the production of normal or inflammatory tissue. The histology and histogenesis of these tumors speak against the parasitic origin. The positive results of implantation and inoculation experiments have so far failed in establishing beyond all doubt the parasitic theory of carcinoma. At present a radical operation is the only rational method of treatment, but, since carcinoma is the result of an erratic, planless cell-growth outside of the range of physiological influences which regulate normal tissue repair, researches should be made to find an agent which will destroy the tumor by causing a degeneration of its parenchyma or which will possess the property of converting embryonic into mature epithelial cells, thus converting a carcinoma into a benign epithelioma.

Diphtheria Bacilli in Noma.—The bacteriological examination of eight cases of noma which have been reported by WALSH (*Proceedings of Phila. Path. Soc.*, June, 1901) shows most interesting facts in regard to the connection of the diphtheria bacillus with this disease. In all of these cases he was able to isolate this bacillus, but only one case showed pure culture of the same. The others showed in addition diplococci and large bacilli, but, as his object was the isolation of the diphtheria bacillus, he did not identify the other micro-organisms found. After reviewing the literature he concludes as follows: (1) True diphtheria bacilli are found in many cases of noma; since this disease is a species of moist gangrene, requiring probably the presence of two micro-organisms, one saprophyte and one parasite, to produce it, it is possible that in those cases where diphtheria bacilli are found they are the causative agents; (2) when pathogenic micro-organisms capable of producing necrosis are found, it is possible that they may be the primary excitant.

Oophoromata and Paroophoritic Cysts.—Malignant tumors in the ovaries of children are histologically distinct from the common forms of cancer or sarcoma and may properly be given the name oophoromata. Their characteristics are that they repeat the connective tissue of the fetal ovary, usually affect both ovaries simultaneously, though not always, rarely occur after puberty, recur locally after removal, may be associated with ovarian dermoids, have a preponderance of cell elements in fetuses and very young children, and toward puberty tend to assume an alveolar arrangement and mimic the structure of cancer. The cysts which arise in the paroophoron are, as a rule, unilocular, and differ from oophoritic cysts in that they do not affect the shape of the ovary until of large size, always burrow between the layers of the mesosalpinx, and are beset in the interior with warts. These warts

are very vascular, bleed freely when handled, and are frequently calcified.

Death Due to Hypertrophy of the Thymus.—While hypertrophy of the thymus, if not arrested, is properly regarded as a fatal disease, TAILLENS (*Revue Médicale*, June 20, 1901) calls attention to the possibility of successful surgical intervention. In cases of sudden death due to cardiac failure there can be no question of treatment, but there is no need to stand idly by and permit a fatal termination in cases in which compression threatens a slower death by asphyxia. Hypertrophy of the thymus has played an important part in numerous medico-legal cases; autopsies have shown this condition to be the cause of death in instances in which poisoning and violence were suspected.

Effects of Yohimbin.—KRAWKOFF (*Klinisch-therap. Woch.*, June 23, 1901) reports the results of the experimental administration of yohimbin in men and dogs. The experiments show a marked fall of blood pressure in dogs, which the author attributes primarily to the action of the alkaloid on the vasomotor center. The hyperemia of the skin, mucous membranes, and genitals which is produced by yohimbin is merely an expression of the action of the drug on the general circulation. This is why yohimbin cannot produce a perfect erection and why it cannot properly be classified as an aphrodisiac. In his experiments on human subjects Krawkoff was unable to obtain the results reported by Mendel. Moreover, symptoms of poisoning were observed to follow the administration of the ordinary dose of 5 millegrams.

Intracerebral Injection of Tetanus Antitoxin.—LETOUX (*La Presse Méd.*, June 29, 1901) reports a case of tetanus following a gunshot wound of the foot. Symptoms developed the day after the injury and ten cubic centimeters of antitoxic serum were promptly injected into each cerebral hemisphere. The symptoms existing at this time continued for several days, but there was no accentuation and in seven days the patient was discharged cured. This is the fourth cure reported by Letoux as the result of intracerebral injections.

Eye Troubles Due to Albuminuria in Pregnancy.—Albuminuric retinitis may occur at any time in pregnancy, but begins especially during the first two months or after the sixth month. It is apt to recur in successive pregnancies. Blindness is rarely caused by the first attack, but each recurrent attack does more damage. In uremic amaurosis there is no immediate visible sign in the retina, but atrophy may ensue. This condition occurs late in pregnancy, usually with other manifestations of eclampsia. It apparently never destroys vision by a first attack. The treatment of both conditions is the treatment of albuminuria and non-use of the eyes, enforced by atrophine and dark glasses. E. W. CLAPP (*Boston Med. and Surg. Jour.*, July 11, 1901) would consider the question of abortion in early albuminuric retinitis of a severe type, especially if hemorrhagic, or if a slight retinitis progresses under treatment; in these cases the life of the child is uncertain anyway and the mother runs grave risks of eclampsia. In cases coming on after the sixth month it is best to wait for other albuminuric symptoms.

Radical Cure of Complete Rectal Prolapse.—The steps of an operation described by JUVARA (*La Presse Méd.*, June 29, 1901) are as follows: Resection of the prolapsed mucous membrane; transverse folding of the muscular wall of the prolapsed portion by a double row of sutures, narrowing of the anal orifice by a U-shaped suture; sewing of the mucous membrane to the anal orifice. The danger to be anticipated is the cutting of the mucous membrane by the tense sutures, with resulting separation of the mucous and cutaneous surfaces and subsequent infection of the exposed area. The operation corresponds substantially to that of Delorme.

Inversion of the Tunica Vaginalis for Hydrocele.—This operation is easy to perform and appears to result in cure of the hydrocele. Many operations have been recorded within the past five years by R. H. GREENE (*Jour. of Cutan. and G.-U. Diseases*, July, 1901) with a history of no unfavorable result as regards suppuration or neuralgia of the testis. In the absence of clinical data extending over a long period of time no conclusions can be drawn as to the effect of the operation in causing atrophy of the testicle.

Congenital Pelvic Malposition of the Kidney.—Pelvic malposition of the kidney is uncommon but important in women. A case reported by DEWIS (*Boston Med. and Surg. Jour.*, July 11, 1901) showed on examination a movable, firm, smooth, notched mass lying behind and to the left of the uterus, as sensitive as the ovaries to palpation. The urine was normal. After five years of clinical treatment for backache, operation was resorted to. Celiotomy revealed a retroperitoneal tumor lying over the promontory of the sacrum, embedded in a soft, thick capsule. After exposure of kidney cortex the incision through the fatty cushion was closed with catgut. The blood-supply of the misplaced kidney could not be made out nor the ureter located. Malposition of the kidney does not seem to interfere with normal function, though it does predispose to complications. There is little aid to diagnosis; the sensitiveness to touch is similar to that of the ovary; when there is malposition there is usually marked lobulation; the "tumor" is always retroperitoneal, with or without mobility. The foremost consideration is avoidance of complications.

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SATURDAY, JULY 20, 1901.

AMERICAN STERILITY.

ONE of the most interesting discussions at the last meeting of the American Medical Association concerned the constantly growing reduction of the birth-rate in this country during recent years and the increasing absolute and relative sterility of American marriages. Dr. George J. Engelmann of Boston read a paper on the subject the statistics of which will be found in our report of the Section on Obstetrics and Diseases of Women of the American Medical Association (MEDICAL NEWS, July 13, 1901, p. 78).

A century ago the sterility of American women was but 2 per cent., the lowest of any population in the civilized world and the average number of children to a marriage was six. At present the national sterility is said to have risen to the alarming figure of 20 per cent. and the average number of children to the marriage is but two. This certainly represents a state of affairs which, if true, deserves serious attention, and all the more so since all the civilized countries are now waking up to the realization that factors are at work for the reduction of population in our advancing civilization that threaten to far more than neutralize the gain in numbers that might be anticipated from sanitary improvements and reduced mortality.

Aside from the mere fact of actual numerical decrease of native inhabitants, a misfortune that already stares France in the face and is not far distant for the United States if present conditions continue to obtain, there are certain ethical considerations that "must give us pause" in this important matter. The conservative editor of a periodical so little sensational as *Harper's Magazine* had very opportunely some words of warning on the subject in the July number. As a side issue in the discussion of modern love and love stories, he speaks of "that revolution through which woman has come to live for herself—for her individual development, rather than for the race." He adds: "If we take a narrow and aristocratic section of contemporary humanity the result seems disastrous. It has been estimated that in fifteen consecutive blocks on upper Fifth Avenue, there are but fifteen children. And, taking a more general view, we can not but consider the denial of motherhood to so many women, whether it be voluntary or involuntary, the saddest tragedy of our modern life."

This is, of course, a pregnant aspect of a great social question. As physicians we are much more concerned with it than might at first sight appear. Undoubtedly there is a tendency in the up-to-date physician to advise too readily against maternity and its attendant cares. It is always a question whether the childless woman or the mother wrapped up in every phase of the health of a single child is really in the end less free from care than her sisters with children and their concomitant duties. Occupation of mind and a definite purpose in life are often the best remedies that can be prescribed for the nervous woman whose time hangs so heavily on her hands that morbid introspection and magnification of symptoms become the burden of existence. While at present the weight of medical influence is exerted toward the limitation of families, it would seem to be safer physically and morally to throw it rather on the other side of the scale so that larger families than are at present the rule would become the mode.

Prophecies are always dangerous things—for the prophet, at least—yet at times they teach the lesson of present tendencies better than any mere review. Mr. H. G. Wells, in a series of articles of forecast called "Anticipations" that have appeared in recent numbers of the English *Fortnightly Review* and the *North American Review*,

lets his prophetic spirit attempt to foreshadow some of the results that may flow from sterile marriages. "Will a generation," he asks, "for whom marriage will no longer be associated with the birth and rearing of children, or with the immediate coöperation and sympathy of husband and wife in common proceedings, retain its present feeling for the extreme sanctity of the permanent marriage bond?" This seems a far cry from the present *laissez aller* conditions. It may even appear too wanting in confidence for the future of the race to anticipate serious ethical demoralization from what is apparently only a little selfish withdrawal from family cares in this generation. Mr. Wells' prophecy becomes more interesting from this standpoint as it proceeds. He foresees even the loss of the present respect for woman and her character if she should continue to shirk her plain duties to the race.

Will the agreeable, unemployed, childless woman, with a high conception of her personal rights, who is spending her husband's earnings or income in some pleasant, discrepant manner—a type of woman there are excellent reasons for anticipating will become more frequent—will she continue to share the honors and privileges of the wife, mother and helper of the old dispensation? And, in particular, will the great gulf that is now fixed by custom between her and the agreeable unmarried lady who is similarly employed remain so inexorably wide? Charity is in the air and why should not charming people meet one another, and are either of the ladies to find the support that will enable them to insist upon the monopoly that conventional sentiment so far as it finds expression concedes them? The danger to them of the theory of equal liberty is evident enough.

These startlingly plain words from non-medical observers are stronger than any protestations that were made at the meeting of the American Medical Association, though there the subject was treated with ungloved hands. The consensus of opinion among candid and unselfish-minded students of the question shows how serious and how urgent are the dangers pointed out. This is not a question to be discussed sensationally and then allowed to drop, because there is no complete practical solution of the problems it involves near at hand. Factors for the simplification of the problem we have at command and they must be employed. The recognition of the dangers ahead is of itself a step in the right direction. Medical influence can accomplish some of the beneficent purposes of avoiding the serious evils and the propaganda of right-minded views in the matter of the limitation of families will help to ward off threatened dangers.

SPATE CHAIRS AND HYGIENE.

OWING to the lull in newspaper news due to Mrs. McKinley's improved health, the dying-out of the smallpox scare, and the cool wave that put a quietus on the death-rate, the columns of our New York dailies have been foaming over with a sentimental fizz of democracy and philanthropy that is swallowed without discrimination by a thirsty public.

The Spate-chair fracas is enlivening the dull monotony of midsummer with its free comedy in Madison Square, and the stay-at-home New Yorkers are grateful for the amusement. But the *Sun* takes the matter seriously. "No, the parks are for the public, undistinguished by their bank accounts," is the solemn fiat. It is "principle" that the *Sun* stands for. Decency, cleanliness, the public health are naught compared with the principle of making no distinction between the tramp and the millionaire in the matter of sitting down.

When it comes to locomotion, the millionaire may run his automobile, the well-to-do man may hire a hansom, the thrifty citizen may pay for a seat in a park carriage, and the poor man may walk; but when it comes to sitting all men must be free and equal, free to make themselves absolutely unbearable to their fellows, and equal to the occasion in disseminating the diseases that one and the other are enduring.

It is a disgrace to our city that the idea of paid chairs is so late in reaching us. It is a well-established fact in cities of older civilization, and the fuss and riots that have attended their establishment make us think of that bygone spirit of certain Western gentlemen whose notion of freedom and equality consisted in defying society to make them put their coats on when they came to the dinner-table.

We wish to sharply remind our fellow citizens who are paying the taxes that the good that is done by establishing breathing-places for the people downtown is just about balanced by the evil that is done by the city's laxity in matters of cleanliness and in just such details as this by which every respectable citizen is exposed to disease in the public parks.

The trained eye of a physician has seen in

Madison Square, within the past year, a man with smallpox stretching himself comfortably along a bench, a dozen men with well-developed cases of barber's itch, ringworm, and other scalp diseases by the score, children with eruptive pustular diseases, and contagions of every kind, to say nothing of the profuse expectoration of tuberculous sputum.

A disinclination to sit on the same bench with a man who is covering his immediate vicinity with tobacco-juice, or with one with filthy social habits, or a third who is sleeping off a night's debauch, undoubtedly shows a haughty spirit of class discrimination which is evidently what the *Sun* intends to rebuke, but we implore this powerful journal to waive for a moment its fundamental principles of democracy, and to seriously consider the fact that the Spate chairs are a long step in advance in matters of comfort and also of health.

A NEW BELLEVUE.

THE fires of criticism have been casting a ruddy glow about this hospital and its management for the past year, and it is to be hoped that we may see the fruition of the plan for a new hospital arise from the ashes of the old. The abandonment of the present Bellevue Hospital buildings and the construction of new and modern buildings have been a dream of the hospital physicians for years. The recent recommendations of the State Board of Charities at its last regular meeting come, then, with special significance. It recommended as follows:

"*Whereas,* The State Board of Charities, having in view the fact that the demands upon Bellevue Hospital are greater than upon any other hospital in this country, and its frequent and thorough inspections having convinced the board that the main buildings of the said hospital are too old and ill adapted to their purposes to be sufficient to meet the proper demands of the service, and being also convinced that the only remedy for present conditions is in a new hospital; it is therefore

"*Resolved,* That the authorities of the city of New York are hereby urged favorably to consider the subject of the erection of a new and modern hospital to take the place of Bellevue as soon as possible. It is further

"*Resolved,* That in the opinion of this board the compensation of attendants and other employees in Bellevue Hospital should be reasonably increased so as to secure the services of competent and satisfactory employees, and that suitable provision should also be made for their care in order that the services of such competent and satisfactory help may be retained."

May the good work go on and the opening of the century see a "new Bellevue," with new and modern buildings, under the control of its new board of managers, which will prove a fitting complement to the medical work of this great city.

OCULAR MOVEMENT AND VISION.

WE are apt to think of the physiology of the eye as almost absolutely settled. However, observations are being constantly made that lead to advances in our knowledge of the visual functions. Even the anatomy of the optic tract is by no means definitely known. Ramon y Cajal, on his visit to this country for the celebration of the decennial anniversary of Clark University, took the histology of the optic tract for the subject of his address. It is evident from his work that the visual apparatus taken as a whole appears more complicated the more we learn of it, and that our knowledge of its details is only just beginning. Not long ago Griff pointed out that even the minute anatomy of the terminal portion of the optic nerve in the retina was not settled. He demonstrated that there are in the retina connecting nerve-fibers which run parallel to the surface in certain of the retinal layers. All the cellular layers of the retina seem to have these connecting fibers, so that stimulation of one or more cells excites nerve impulses in a series of cells. This summation of stimuli produces the effect upon the visual cortex.

The complexity of the visual apparatus thus demonstrated makes it clear that for normal function not only must the eye and, especially, its neural appendages be in good physiological condition, but very definite physical conditions must be fulfilled for the attainment of satisfactory vision. These anatomical considerations may help us to understand the results of a recent set of observations made in the psychological laboratory of Wesleyan University. Prof. Raymond Dodge thinks that he has proven that the eyes when in motion can distinguish nothing in any complex field of vision. In order to see any object at rest the eye must remain motionless looking at some definite part of it for an appreciable length of time. If the eyes move they see noth-

ing for about one-twentieth of a second. Prof. Dodge thinks that this explains the success of those sleight-of-hand tricks in which rapid movements of the fingers are absolutely unseen. This fact also makes it clear why in boxing, fencing, etc., the eyes must be made to dwell upon some comparatively fixed point if they are to give due warning of the movements of an adversary.

Prof. Dodge's observations also throw light upon reading and the manner of its accomplishment which is not by a continuous movement, but by a series of pauses during which not separate letters, but groups of letters are recognized. This serves to encourage the idea now applied in modern teaching that the child should not be first taught its letters, but the significance of groups of letters. The letter is only an artificial word element not correspondent with the true psychologic elements of reading vision. Needless to say, this subject is most important since the question of the use and abuse of the eye muscles and the effect upon the general system of nervous reflexes from the neuromuscular eye mechanism is as yet under discussion. Many an obstinate headache that is often accompanied by digestive disturbance has its origin in this complex apparatus. Light on the matter is most welcome, especially as it is suggestive of an entirely new order of ideas on an old subject.

ECHOES AND NEWS.

NEW YORK.

Smallpox Closes a School.—One of the vacation schools of Brooklyn occupying the building of Primary School No. 88 has been closed by the Department of Health on account of the prevalence of smallpox in the neighborhood.

Removal of Patients from Kings County Hospital.—The State Board of Charities has ordered that the mentally defective and epileptic patients of the Kings County Hospital and Almshouse must be removed to the State Insane Asylums as soon as possible in order to relieve the overcrowded condition of the former institution.

Increased Water Supply for Brooklyn—The danger of the annual water famine in Brooklyn has been very largely averted by the recent heavy rains. The amount of water in the borough reservoirs was increased by 51,965,000 gallons between July 3d and 14th.

Sanitary Conditions at Rockaway Beach, L. I.—The sanitary conditions at Rockaway Beach, L. I., for the past two weeks have been of the worst owing to the lax methods employed by the garbage contractors of that place. Their failure to fulfil their contracts has resulted in the cancellation of the same by the authorities and the extra-allowance of $15,000 to the Department of Highways which will undertake the work.

Disposal of Garbage.—The question of the disposition of the garbage of Manhattan and Brooklyn has not as yet been satisfactorily settled. The bid of the Sanitary Utilization Company, located at Barren Island, which has held the contract for the past six years, has been refused by the Board of Estimate which insists that the contract must run one year instead of five, as was formerly the case.

Long Island College Hospital Appointments.—Dr. Ralph H. Pomeroy has been appointed lecturer on obstetrics, Dr. John O. Polak, lecturer on gynecology and obstetrics, Dr. William F. Campbell, professor of anatomy, to take the place of Dr. W. W. Browning, deceased, Dr. Warren S. Simmons, adjunct professor of anatomy.

Anthrax Prevalent in New York State.—Anthrax has made its appearance among several herds of cattle in the west of New York State at Oneida.

Manhattan Dermatological Society.—A regular meeting was held on Friday evening, June 7th, at the residence of Dr. B. F. Ochs, No. 120 West 120th street, with Dr. Wm. S. Gottheil in the chair.

Dr. R. Abrahams presented a child, seven months of age, with a *congenital nævus* of the left side of the nose near the inner canthus. Treatment by electrolysis was advised. Alcohol injections are dangerous in this locality, but useful for small nævi. Dr. Geyser recommended the use of a positive galvanic gold or platinum needle inserted to the depth of three or four lines and with a current of one and a half to two milliamperes. This produces an adherent clot. Dr. Bleiman preferred a radical surgical operation. Dr. Ochs thinks the platinum needle best and Dr. S. S. Cocks prefers the negative needle. Dr. J. Sobel said alcohol injections cause pain and edema and ulceration about the eye. Electrolysis would benefit the superficial vessels, but there was a bogginess below which would be difficult to cure. Dr. Gottheil spoke of the dangers of thrombosis and embolism from injection. The enormously dilated veins below would cause trouble in treatment. He would advise surgical intervention.

Dr. J. Sobel presented two cases of *ichthyosis* in a boy eleven years of age and a girl aged three. Both were born with normal skin and three months later the present condition appeared. Four other members of the family are similarly affected.

Dr. B. F. Ochs presented a young woman with *psoriasis guttata,* in whom for ten years this condition had recurred every summer and disappeared spontaneously in the fall. Dr.

Gottheil mentioned a case of *psoriasis* in which the attacks were very materially benefited by rest in bed and milk diet.

Dr. Gottheil presented a classical case of *acne necrotica.* In a man about forty-five years of age there appeared since childhood typical lesions at the hair margin, temporal regions and naso-labial fold. Numerous scars were present. The man is otherwise healthy. Treatment at present consists of exposure to the arc-light. Dr. Ochs considers it typical. Drs. Oberndorfer and Sobel spoke highly of white precipitate ointment and mentioned the danger of recurrence in this affection. Dr. Kinch inquired whether sulphide of calcium would not benefit these cases. Dr. Abrahams advises iodide of potassium internally.

Dr. J. Sobel presented a patient with *seborrheal eczema* of the chest, back and abdomen. The lesions were red, scaly and circinate in places. Dr. Bleiman would agree as to the diagnosis although the lesions are not typical. Dr. E. S. Cocks agreed with the diagnosis. The only condition which it resembles is pityriasis rosea and this he excluded. Dr. R. Abrahams considers it herpes tonsurans maculosus et squamosus. The presence of rings speaks against seborrheal eczema. Dr. Gottheil would call it generalized ringworm and erythema multiforme. Dr. Ochs inclines toward a diagnosis of herpes tonsurans, yet there is seborrhea with it. Dr. Oberndorfer remarked that he has seen many cases of seborrheal eczema with annular lesions, many lesions of seborrheal eczema with perfect rings.

Dr. R. Abrahams presented a patient with *lichen planus* of the dorsal surface of the hands and wrists. Drs. Bleiman, Ochs and Oberndorfer said that at present it is difficult to make a diagnosis. Dr. Sobel thought that at present the lesions were not destructive of any affection. The extensor surfaces of the wrists would seem to speak against lichen planus. Dr. Kinch considers it eczema. Dr. Gottheil remarked that in the retrogressive stage an eczema papule may resemble lichen. Dr. Gottheil presented a case for diagnosis. The patient stated that six weeks ago the face became affected. It now presents small papular elevations with sebaceous crusts. On the left hand there is an almost complete circle of papules progressing from the center, on the right hand some staining and old scar tissue. Dr. R. Abrahams considers the affection of the face lupus erythematosus and that of the hand herpes tonsurans. Dr. Kinch said it is suspiciously like a syphilide. Dr. Bleiman considers it a tuberculous process. Dr. Oberndorfer looks upon it as a syphilide. Dr. Ochs thinks it syphilis and Dr. E. S. Cocks lupus or syphilis. Dr. Sobel thought syphilis was to be considered, but that the diagnosis was most likely erythema multiforme. Dr. Gottheil said that the history, the staining, and the face speak for erythema multiforme.

Dr. B. F. Ochs presented his patient with resolving syphilis. Marked improvement had taken place under iodide of potassium and bichloride.

PHILADELPHIA.

Paperhangers Want Walls Scraped.—A committee of the Paperhangers' Union has prepared a circular letter to prominent Philadelphia physicians, asking them to give their views upon the necessity of scraping the walls of houses about to be repapered as a hygenic measure. In the event of favorable replies being received, petitions will be sent to the Board of Health and Councils urging that compulsory legislation be enacted.

Hospital for Braddock, Pa.—It is reported that Mr. Charles M. Schwab, President of the United States Steel Company, will give a hospital, to cost approximately $250,000, to Braddock, Pa. The plot of ground on which the proposed institution will be located is one mile from Duquesne and an equal distance from Homestead and Braddock, and is one of the most desirable in Alleghany County. Car lines will be operated to insure quick transportation to the injured.

New Children's Hospital.—It is reported that the 16-acre tract of land opposite Carnegie Institute in Pittsburg is to be the site of a children's hospital which Mr. H. C. Frick intends to build and endow. The site cost Mr. Frick $950,000.

Free Hospital for Poor Consumptives.—A tract of 215 acres has been purchased in the Blue Mountains near White Haven, Pa., as a site for the proposed sanitorium for poor tuberculous individuals. It varies from 1,500 to 1,800 feet above sea level and is said to be an ideal location. The bill appropriating $110,000 for the erection of the necessary buildings is now before Governor Stone. By the terms of the bill $100,000 will be used for the construction of the hospital buildings, which will be arranged on the cottage plan, and the remaining $10,000 will be used in the treatment of the tuberculous poor in Philadelphia. Each year the State gives about $1,000,000 for the maintenance of free hospitals, but until this year nothing has been done in behalf of the tuberculous poor. It is estimated that 6,000 deaths occur annually in Pennsylvania from this disease and that one-third of the sick poor are tuberculous.

The State Board of Health.—This body held its forty-ninth regular meeting at the Asylum for Chronic Insane near Wernersville on July 11th. Secretary Lee presented a resolution requesting an appropriation of $3,000 from the Emergency Fund for the suppression of smallpox. This was forwarded to the Auditor-General at Harrisburg. It is stated that twenty-four points in the State are affected and that there are fully 2,000 cases in Pennsylvania at present. The sanitary con-

dition of the United Brethren camp-meeting grounds at Mt. Gretna was condemned as bad and the officials notified that their resolution of last year must be obeyed. Dr. Samuel T. Davis of Lancaster was unanimously re-elected president of the board and Dr. E. G. Madson of Pittsburg was appointed bacteriologist for Western Pennsylvania.

To Suppress Smallpox.—The residents of Ashland are thoroughly alarmed over the spread of smallpox in that vicinity. At a special meeting of the Borough Council recently, $1,000 was appropriated to stamp out the disease. Reports from Pittsburg are more favorable. At present ten patients are in the City Hospital and of these six will be discharged in a week. The others are not dangerously ill. The free vaccination of the poor continues, as usual, three days a week.

Hospital Protests Appropriation Cut.—With an authorized capacity of 1,710, the State Hospital for the Insane at Norristown, Pa., is accommodating 2,138 patients, and on this excess of population over space is based a vigorous protest against the Governor's proposed cut in the $128,500 appropriated by the Legislature to this institution. The proposed building for nurses and attendants, it is urged, are necesary from a humane standpoint, patients and their caretakers suffering from the present inadequate facilities. The two buildings desired for the employees would each accommodate 150, whose removal from the wards, it is maintained, would provide quarters for practically all of the 428 patients in excess of the authorized capacity, nearly all of whom are now sleeping in the halls.

Alleged Malpractitioner Held.—Coroner Dugan recently committed Mrs. Elizabeth Geverand to prison on the charge of causing the death of Mary Sullivan, aged twenty-nine years, by criminal malpractice. The autopsy showed that death was from peritonitis following injuries.

CHICAGO.

Dean of Northwestern University Medical School.—Owing to the illness of Dr. Frank S. Johnson, Dr. N. S. Davis, Jr., succeeds him as Dean of the College. Dr. Davis was formerly the Secretary of the College. Dr. Davis' position will be filled by Dr. Arthur R. Edwards. Dr. Edwards has long been actively connected with the College.

Hospital-License Law Valid.—Assistant Corporation Counsel Arthur has rendered an opinion in which the Corporation Counsel concurs, that the hospital-license law now in vogue, that law under which Health Commissioner Reynolds has cited Dr. John Alexander Dowie to appear in court, is a good and valid ordinance. Dowie claims Zion is not a hospital, and that he is not amenable to the ordinance. It has been decided that Dowie must take out a hospital license.

Organization of Trained Nurses.—Trained nurses of the State have formed a permanent organization, termed the Illinois State Association of Nurses. The primary object of the organization is to secure State legislation looking toward the passage of laws prohibiting the practising of nurses without a diploma granted by a training school.

Delegate to the Tuberculosis Congress in London.—Health Commissioner Reynolds has left for Europe, bearing credentials showing his appointment as delegate to the British Congress of Tuberculosis, to be held in the Queen's Hall, London, July 22d to 26th. Dr. Reynolds will also attend the meeting of the British Medical Association at Cheltenham. Among those who will attend the Tuberculosis Congress from this city are Drs. John A. Robison, W. Byron Coakley, and Willis O. Nance.

Changes in the Medical Department of the Illinois National Guard.—Major G. Frank Lydston, surgeon, and Lieutenant E. N. Elliott, assistant surgeon, assigned to Second Infantry, have tendered their resignations which have been accepted. Dr. B. S. Rogers has been commissioned major and surgeon; Dr. B. McPherson Linwell, captain and assistant surgeon, and Drs. F. W. Jay and F. Gregory Connell have been commissioned first lieutenants and assistant surgeons, and assigned to the Second Infantry.

Northwestern University Medical School Alumni Association.—The annual meeting of this Association was held recently. Dr. William A. Mann of Chicago was elected president, and Dr. Henry B. Hemenway of Evanston, secretary.

Formaline in Hospital Milk.—It is reported that poison has been found in the milk furnished the patients in the County Hospital. Samples submitted to the city chemist upon analysis have been shown to contain quantities of formaline sufficient to cause or hasten the death of sick persons. Patients had complained of the milk, and declared it tasted "funny." Warden Daniel D. Healy agreed with them, and promptly had samples sent to the city laboratory. The report rendered by the city chemist condemns the milk for all uses, and leaves the venders of it liable to prosecution by the Health Department.

GENERAL.

Opportunity for Young Doctors.—The recent appointment of forty-five assistant surgeons in the army leaves upward of eighty vacancies in that grade yet to be filled. The large increase in the number of medical officers provided for in the reorganization of the army present opportunities to an extent never heretofore afforded for young physicians to enter the military service. Previous service is not a prerequisite to candidacy, physicians from civil life having an equal chance for appoint-

ment with those who have been or are now in service. Examinations will be resumed in Washington early in September next. For information regarding the service see the MEDICAL NEWS of April 27, 1901.

Another Fraud.—We are indebted to the editor of *Success* for the following warning: A man, calling himself "R. G. Stearns," is swindling physicians in various cities, through offering them a clubbing combination of from eight to twelve magazines and charging therefor $4 or $5. During the month of April he operated in New Orleans, La., Memphis, Tenn., Louisville and Lexington, Ky., and in the first part of May was in Detroit, Mich. So far as we have learned he has worked entirely among doctors and dentists. His method of working is to enter a doctor's reception-room and from a grip which he carries take a number of magazines and display them on the table telling the doctor that he can have this outfit sent him for twelve months for $4. He is described as a smooth talker, twenty-five to thirty years of age, about 5 feet 9 inches, rather slim, weighs about 140 pounds; he has a dark complexion, dark curly mustache, and is a Jew. When in Detroit he wore a light suit of clothes and black derby hat. He uses a receipt which he has had printed with our firm name and address at the top, and a line above the signature reads, "Agent is Authorized to Collect Subscriptions in Advance." He usually includes *Munsey's, Pearson's, McClure's, Review of Reviews, Cosmopolitan, Puck, Judge, Black Cat, Woman's Home Companion,* etc., etc. As he is liable to visit your city, we would suggest that you notify your friends in regard to his methods, and this may probably lead to his apprehension.

Plague Ravages in Egypt.—The United States consular representative at Cairo has informed the State Department that the bubonic plague which prevails in many of the towns of Egypt is of a virulent and destructive type, and on account of its rapid development and the exceptionally high rate of mortality, general apprehension and alarm prevail throughout the country. During the week preceding June 19th, there were twenty-three cases reported, twenty-one of which were at Seagazig and two at Minieh. Sixteen cases were admitted to the hospital and five were found dead outside of the hospital at the former place. Of those admitted to the hospital six died.

Fraud Order Against the Magnetic Healing Institute of Battle Creek, Mich.—Postmaster-General Smith has issued a fraud order against J. E. Batdorf & Co., otherwise known as the Magnetic Healing Institute of Battle Creek, Mich. The "institute" advertised that to any one sending "a lock of hair, with age and sex, including four cents postage," they would send a diagnosis of any or all diseases which the patron might have. To those sending the required lock of hair and postage, the concern sent an appalling list of diseases which the owner of the hair was asserted to be afflicted with, and a price list of medicines to suit the various ailments. To those wishing to be cured by the month, the institute was willing to give special rates. A post-office inspector, a remarkably perfect man physicially, filled in one of the institute's blanks, enclosed a lock of hair and four cents, and was informed by return mail that he was afflicted with eleven malignant diseases in various stages. The medicines sent by the institute were claimed by patients to have been worthless. The Postmaster-General, considering that the institute was not conforming strictly to the spirit or letter of the postal regulations, denied Dr. Batdorf the use of the mails. A more rigorous application of this ruling would rid this country of hundreds of other such imposters.

Enno Sander Prize.—The Enno Sander Prize has for 1901-1902 been generously increased by its founder to consist of a gold medal, valued at one hundred dollars, and one hundred dollars in cash. The subject for this year is "The Most Practicable Organization for the Medical Department of the United States Army in Active Service."

1. Competition is open to all persons eligible to active or associate membership in the Association of Military Surgeons of the United States.

2. The prize will be awarded upon the recommendation of a Board of Award selected by the Executive Committee. The Board will determine upon the essay to which the prize shall be awarded, and will also recommend such of the other papers submitted, as it may see fit, for honorable mention.

3. In fixing the precedence of the essay submitted, the Board will take into consideration — primarily — originality, comprehensiveness and the practicability and utility of the opinions advanced, and—secondarily—literary character.

4. Essays will consist of not less than ten thousand, nor more than twenty thousand words, exclusive of tables.

5. Each competitor will send three typewritten copies of his essay in a sealed envelope to the Secretary of the Association, so as to reach that officer on or before February 28, 1902.

6. The essay shall contain nothing to indicate the identity of the author. Each one however will be authenticated by a nom de plume, a copy of which shall, at the same time as the essay, be transmitted to the Secretary in a sealed envelope together with the author's name, rank and address.

7. The envelope containing the name of the successful competitor will be publicly opened at the next succeeding annual meeting of the Association, and the prize thereupon awarded.

8. The successful essay becomes the property of the Association of Military Surgeons of the United States, and will appear in its publications.

Board of Award, 1901-1902.—Honorable WILLIAM CARY SANGER, *Assistant Secretary of War;* Brigadier General GEORGE MILLER STERNBERG, *Surgeon-General U. S. Army,* and a distinguished officer of the line to be announced later. JAMES EVELYN PILCHER, *Secretary,* Carlisle, Pa.

Obituary.—Dr. George H. McMurray died of diabetes in Glens Falls, N. Y., on Friday at the age of thirty-six years. He was educated at Fort Edward Collegiate Institute and the Albany Medical College, and at the time of his death was a member and the secretary of the Pension Examining Board which meets in Glens Falls.

Dr. James Marvin, at one time Chancellor of the University of Kansas and later Superintendent of the Haskell Industrial Indian School, died at Lawrence, Kan., Tuesday. He had been an invalid for years.

Dr. John F. Trenchard, a former well-known physician of Philadelphia, and at one time a member of the City Council, died at Fairton, N. J., July 16th, aged eighty-one years.

CORRESPONDENCE.

MEDICAL NOTES FROM THE PAN-AMERICAN EXPOSITION.

[From Our Special Correspondent.]

THE Medical Bureau of the Pan-American Exposition was established last August, and from that time until the present writing, June 30th, 1,950 cases have been treated by the staff. The hospital, which is situated near the West Amherst Street gate, is a small grey building, containing three wards which will accommodate about thirty patients, an operating-room and surgery, besides a small dispensary, and rooms for the resident staff nurses. The variety of cases treated has been considerable, including electric burns, many fractures resulting from falls, tuberculosis among the Indians, measles among the Esquimaux, and pneumonia among many of the Midway people who arrived from the tropics during the cold weather.

Two births have been recorded on the Exposition register, one at the Indian Congress and the other at the Philippine Village. The young Indian, christened Pan Anna by Governor Roosevelt, is a pure-blooded Navajo, and her birth was conducted in the true Indian fashion. A nest of hay was placed near the center of the tent, over which was spread a sheep-skin, wool side down, and above this, from the ridge pole of the tent, hung a rope. No method of antisepsis was used, but, as the pains became severe, the mother assumed a squatting position over the hay nest, holding to the rope above her head. Back of her, with arms around her and making pressure over the abdomen, was an old squaw, the *accoucheuse* of the tribe. When the doctor arrived the os was well dilated, but the bag of waters had not ruptured. Soon after a severe pain ruptured the membrane, and during the following pain the child was born, the waters flowing into the skin above mentioned. The usual custom is not to cut the cord until after the placenta has been expressed.

Another feature of interest to people in general, and doctors in particular, is the infant incubator. To a doctor perhaps the most interesting part is their method of feeding the prematurely newborn. Some infants when first brought from the mother are incapable of suckling. They gag when milk is poured into the mouth and vomit from irritation when a nasal catheter is used. Dr. Coney, who is in charge of the babies, uses a nasal feeding spoon for these children. The spoon is made by bending the edges of an ordinary spoon to form a nozzle which will allow but one drop at a time to escape. One six-and-one-half-month-old baby was brought in when five days old, weighing two pounds, eight ounces, and having a temperature of 93.4° F. A five-minute bath at a temperature of 110° F. roused the child's body heat to 98° F. Mother's milk, containing one or two drops of brandy, was fed to the child by the nasal spoon and in three days it was able to suckle. It now weighs five pounds, two ounces, and is three weeks old.

The present Staff is composed of the following: Dr. Roswell Park, Director; Dr. Vertner Kenerson, Deputy Director; Drs. Alfred Zittle, Alex Allen and Edward C. Mann, Internes.

THE METHODS OF MEDICAL DIRECTORS OF INSURANCE COMPANIES.

To the Editor of the MEDICAL NEWS:

DEAR SIR: When I suggested to you the desirability of writing to the insurance companies asking the medical directors what course they proposed to pursue concerning the insurance of Christian Scientists, I warned you that the chances were against your receiving many answers to your letters. What I said was based upon my own experience, which I now beg leave to give in detail.

Being anxious to verify the oft-repeated assertion that Jews live longer than other persons, I wrote to a number of medical directors of important life insurance companies asking them for any information they might have concerning the comparative longevity of Jews and non-Jews. My recollection is that I received only four answers. In no other branch of commence is it customary to ignore polite letters asking reasonable questions, and the policy of so-doing appears to me to reflect upon the business capacity of the gentlemen who adopt this unusual procedure.

Two of the answers which did reach me throw some light upon the scientific attainments of those who pose as experts upon the

technical aspects of life insurance. My communication, addressed to the medical department of one of the great companies, was forwarded to a general agent, who favored me with the following ludicrous reply to a scientific question:

"I regret that we are unable to furnish you with any statistics relative to the longevity of Jews and non-Jews. The writer has recently seen a statement to the effect that a greater longevity does prevail among the Jews than the Gentiles; but is unable at this time to advise you where he got the information."

The second answer to which I have referred informed me that an insurance company could not ask an applicant about his religion, and on that ground statistics of Jewish longevity could not be furnished. Anybody who supposes that Judaism is merely a religion must be strangely ignorant both of history and of ethnology. Surely no religion, however old, can construct the Jewish face! Surely religion, unaided, could never have produced such marked "biostatic" phenomena as are found among Jews all over the world! Nevertheless, to the medical directors of some companies, all persons born in what was formerly Poland are Poles, and everyone born in Canada is a Canadian, whether a *habitant* or the son of Scotch parents. Unless my powers of observation are seriously at fault, the Polish Jew has very few ethnic characters in common with non-Jewish Poles, and the most important characters of Jews are identical, whether they were born in Russia, England or the United States. The "argument" which I occasionally hear, that "Poles are not classified by religion in death certificates," is worthy of the nursery. For practical purposes, Jews must be regarded either as a race or as a people, and any insurance company that wishes to collect statistics showing whether they are good risks or bad risks need only print the words "Race and Nationality" on its medical examination blank, and then give some simple instructions to its examiners. I am not acquainted with any Jew who is ashamed of his descent, and the number of Jews who would object to being asked an explicit question upon the subject by a life-insurance examiner must be extremely small. As a rule, however, the information will be given voluntarily in reply to the query named above.

Upon the subject of Jewish longevity, I have obtained some valuable facts from foreign companies; but these companies are not making streunous efforts to insure everybody who has one leg outside the grave; they are *not paying* gigantic commissions to agents; but they *are paying* more than $3.00 for medical examinations, even when the amount of the policy is less than one thousand pounds ($5,000). It is safe to say that they have no "lightning" examiners, who boast of their ability to make an examination in less than four minutes. Before leaving this aspect of the case, I should like to mention the following facts: One of the largest companies in the United States has now omitted chest expansion from its examination blank. Another company, not so old and smaller, has printed a table of thirty principal "causes of death," among which I find "apoplexy," "convulsions," and "dropsy." To the statistician, these so-called "causes"—in reality symptoms—are valueless. A third company has published a volume containing its history for the past fifty years, but I have not succeeded in seeing the book. I wrote to the home office asking if I might be allowed to look at a copy. A young gentleman then came to enquire for what purpose I wanted it. I told him. After the lapse of some weeks, he called again and kindly informed me that the book was not visible at present, because the official in Buffalo who owned it had had a fire at his residence! Apparently this copy was the only one obtainable at the time. But why should a work of this kind be published if it is to be kept from the gaze of persons who have some knowledge of vital statistics?

I venture to urge that the medical departments of some life-insurance companies need reforming somewhat badly. As far as business matters are concerned, every courteous letter ought, of course, to be answered. It should not be necessary to mention this. As to scientific subjects, the life-insurance director has a great deal to do with statistics and with questions of heredity—departments of knowledge which are not taught in medical colleges. I can assert without fear of contradiction by any competent person that physicians, as a rule, are not even familiar with the terminology used by statisticians and by those biologists who make a study of the problems of heredity. That the existing system of managing the medical part of some companies is very defective is shown by an article in the *Buffalo Medical Journal* for January of this year, the title of which is "The Importance of the Position of Medical Examiner for Life Insurance." The author is Dr. Frank M. Maloney of Rochester, N. Y. He says: "It is a sad commentary on the ability and honesty of our profession when one company divides its insurance into two classes, as an experiment, keeping and noting the record of those examined and those unexamined, to find that after a certain number of years the mortality of those unexamined was less than that of the examined. . . ."

Although I know nothing of medicine, I cannot refrain from asking how the medical department of the company to which Dr. Maloney refers has justified its existence.

As to Christian Scientists, it is quite obvious that if a man has no regular medical attendant,

or does not know when he last needed the services of a physician, or cannot give the name of the practitioner who last prescribed for him, that man ought to be rejected by all mutual life-insurance companies, for the very good reason that the acceptance of persons who cannot give this information is injurious to the interests of the policy holders.

I dissent from the expression "a good healthy Christian Scientist" in your editorial of June 1st. No doubt there are some "healers" who are physically healthy, and are merely charlatans of a pronounced type. But most Christian Scientists are mattoids, who are quite often the personification of *mens infirma in corpore infirmo.*

LAWRENCE IRWELL, M.A., B.C.L.

Buffalo, N. Y., July 5, 1901.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, July 6, 1901.

THE REFORM OF THE ARMY MEDICAL SERVICE—APPOINTMENT OF A COMMITTEE OF EXPERTS—MR. BURDETT-COUTTS AND HIS ABORTIVE OBJECTION—SOME PERSONAL APPRECIATIONS—THE NEW CORONER FOR THE CITY OF LONDON.

IN the House of Commons on June 27th Mr. Brodrick, the Secretary of State for War, announced that a committee of experts had been appointed to consider a scheme drawn up by him for the future organization of the medical service of the Army. This Committee consists of Dr. Howard H. Tooth, physician to St. Bartholomew's Hospital; Mr. George H. Makins, surgeon to St. Thomas's Hospital; Mr. Alfred D. Fripp, assistant surgeon to Guy's Hospital; Sir Frederick Treves, formerly surgeon to the London Hospital; Professor Alexander Ogston, of Aberdeen, as representing Scotland; Lieutenant Colonel Keogh of the Royal Army Medical Corps as representing Ireland; Dr. E. C. Perry, physician to and medical superintendent of Guy's Hospital; Surgeon-General Hooper, President of the Medical Board, India Office; and two officers to be named by the Commander-in-Chief to represent the Army. The Secretary of the Committee will be Major H. E. R. James of the Royal Army Medical Corps, and the War Minister will himself officiate as Chairman. In reply to questions Mr. Brodrick stated that he did not propose that the deliberations of the Committee should be hurried as he wished to put the Corps on a permanently good footing. The irrepressible Mr. Burdett-Coutts, who takes everything relating to the medical service as his own special province, attempted to raise an objection to the inclusion of Sir Frederick Treves in the Committee and was promptly snuffed out by the Speaker who ruled that any comment on the names of the persons selected to act on the Committee would be out of order. Doubtless what Mr. Burdett-Coutts wished to do was to repeat a charge against Treves which is as meaningless as a parrot cry and as irritating by what Falstaff would call its "damnable iteration." When Treves and MacCormac returned laden with laurels from their three or four months' trip to South Africa, they were entertained at a big dinner at the Reform Club with Lord Rosebery in the Chair. At that time the devastating epidemic of typhoid fever at Bloemfontein, which brought such an avalanche of criticism on the medical service, had not broken out, and the Army Medical Corps had worked more efficiently than any other branch of the Army. Treves bore emphatic testimony to its good work, speaking of what he had actually seen. Naturally he said nothing about misfortunes which were then still in the womb of time. For this lack of the prophetic faculty Treves has been denounced with childish persistency by Burdett-Coutts as if he had borne false witness as to the state of things in South Africa.

The Committee is a fairly strong one, though the amateur war-surgeon element is perhaps too predominent. Treves himself is known to have views on the subject of army medical reform, for not long ago he gave them to the world in our leading monthly magazine, the *Nineteenth Century and After.* He was also a member of a committee of the British Medical Association appointed to draw up a scheme of reform, but he refused to sign the report on the ground that he did not approve of its suggestions. As the Committee had taken many of its principal suggestions from his article, they were naturally not a little surprised at this repudiation. It was clear, however, that Treves wished to cut himself adrift from them and paddle his own canoe, his motive obviously being to leave himself free to accept an invitation to act as adviser to the Government. Dr. Tooth—who is probably a great man, for has it not been said that the world knows nothing of its greatest men?—has, it may be surmised, been selected because he saw much of the typhoid epidemic and has thus become, almost *malgré lui,* an authority on war sanitation. Mr. Makins is an amiable man and a good surgeon who was lucky enough early in his career to find a protector in Sir William MacCormac; by clinging to the ample coat-tails of that star-spangled Knight of the Scalpel he has risen to a height of most respectable mediocrity where he is popular because he excites no envy. As applied to the medical profession the counsel of the Wise Man, "Beware when all men speak well of thee," may be taken to mean that a man who has no detractors is not thought to be worth disparagement. Mr. Fripp is a young man who has hitherto been the spoilt child of fortune. While in a provincial town doing duty for a general practitioner he was called in to heal a scion of royalty who had received a poisoned wound from Cupid's dart. So successfully did the surgeon minister both to the body and the mind of his illustrious patient that he became a favorite not only with the princeling, but with his exalted parents. When a year or two ago the Prince of

Wales—now *Die gratiâ* King and Defender of the Faith—suffered a fracture of his patella, the faithful Fripp was in attendance and helped MacCormac to do nothing—a method of treatment which they carried out with great skill. Then he went to the war, and while in South Africa contrived to keep the world at home fully informed as to his doings. Fripp may be trusted to go far, for, to paraphrase Pope's phrase about Arbuthnot, he knows his trade as well as his art. The mention of Arbuthnot, by the way, recalls the fact that Queen Anne's famous physician likewise owed to an accident his first start towards professional success. He happened to be passing when a Royal Duke broke his leg, and took at its turn the tide that led to fortune. Such accidents, however, can profit only those who deserve to be favorites of Fortune. Professor Ogston is a surgeon of the highest reputation. He went out to South Africa at his own expense and went about in the capacity of what his countryman Robert Burns described as "a chiel takin' notes." At the annual meeting of the British Medical Association, held in Portsmouth a few years ago, Ogston delivered an address which gave mortal offense by its outspoken frankness of criticism to the medical officers of the Army and Navy. He expressed the opinion that, owing partly to the want of opportunities of practice and partly to the cheese-paring policy of the Government which would not grant them leave to refurnish their knowledge and skill by post-graduate study, they were not up to the level of their brethren in civil life. He said nothing but what was true, but naturally the truth was unpalatable. Ogston's selection will probably be resented by the Army Medical Corps, but impartial outsiders who know the facts of the case regard him as the strongest man in the Committee. Lieutenant-Colonel Keogh is said to be a level-headed man, but such reputation as he has is purely departmental. Dr. Perry is an able man who has proved himself a first-rate administrator at Guy's Hospital; but he can have no personal knowledge of the special problems involved in the reform of the medical service of the Army. Surgeon-General Hooper's military experience has been gained wholly in connection with the Indian Medical Service which is an altogether distinct branch.

On the whole the Committee, if it might have been better, might have been a good deal worse. It is something to be thankful for that there is to be a Committee at all, for there appeared to be some reason to fear that the Secretary of State, whom no one could justly accuse of want of confidence in himself, would attempt the reform of the service without the help of any one. As it is he does not ask the Committee to draft a scheme, but to consider a scheme which he has evolved from his inner consciousness. It is said that the fundamental principle of his scheme is to have the medical supervision of the troops on home stations carried out by civilian practitioners at contract rates, and have a small medical corps for foreign service. If this is true, it is to be hoped that the experts may be able to convince him that the plan is unworkable. Civilians have no notion of military discipline and do not care to be instructed in its mysteries. On the other hand, no man would consent to expatriation for the best years of his life—and this would be the fate of an officer entering a corps employed only for foreign service—without a much more liberal scale of pay than the Government is likely to offer.

Dr. F. J. Waldo has just been elected Coroner for the City of London. He is a graduate of Cambridge and a pupil of Koch. As Medical Officer for the Borough of Southwark he was strenuous in his efforts for the hygienic reform of bakehouses and for the sanitary control of night-shelters. In connection with the latter point, he incurred the anathemas of the Salvation Army by his unsparing exposure of their neglect, not only of sanitary requirements, but of ordinary cleanliness. It is noteworthy that among eighteen candidates for the coronership the three selected were all members of the medical profession. Yet till Thomas Wakley, the founder and first editor of the *Lancet*, won by popular suffrage the post of Coroner for Middlesex, that office was regarded as an appanage of the legal profession.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

ELEMENTS OF TYPHOID SERUM—TUBERCULOUS CEREBELLAR TUMOR—OLD PLEURISY AND EMPYEMA—INTENSIVE SERUMTHERAPY IN DIPHTHERIA.

M. WIDAL, at the Société Médicale des Hôpitaux, June 14, 1901, read a paper on the existence of *sensibilisatrice* in the blood-serum of typhoid patients, and said that the researches of M. Bordet have shown that the bactericide and cytolytic properties of the specific serums are due to the combination of two substances or elements. The first of these factors is called *alexine;* it exists in the serum of normal adults and may be destroyed by a temperature of 56° C., and acts itself for the destruction of the germs. The other substance is *sensibilisatrice;* it is alone a specific product, occurs in the blood of vaccinated individuals and serves to promote the sensitiveness of the germs to alexine. For establishing the existence of this element, sensibilisatrice in antimicrobe serums, M. Bordet made sole use of this peculiar property which it possesses of causing the organisms to absorb the destructive alexine. Unlike alexine, he found that sensibiliatrice is not destroyed by a temperature of 56° C. Now, if one works up together a normal serum, which has never been heated, with an isotonic emulsion of typhoid fever bacilli and with a serum of vaccinated guinea-pigs, previously raised to 56° C., the bacilli thus rendered more sensitive will absorb the alexine or destruc-

tive element which will disappear from the medium. If now to the above mixture, after a lapse of five hours, one adds a certain quantity of red blood-cells rendered sensitive by having been acted upon by a specific serum, similarly heated to 56° C., hemolysis will not occur. The explanation of this phenomenon is that the alexine of the serum, which in the first mixture had not been heated and which would determine the hemolysis, has been entirely and fixedly absorbed by the typhoid bacilli in the first experiment. If, on the contrary, this first mixture had been made with a non-typhoid serum, consequently not containing any specific sensibilisatrice, the alexine would not have been fixed by the non-sensitive bacilli and left free would have been active in producing the hemolysis of the red blood-cells. M. Bordet and M. Gengou have found that the serum from two convalescents from typhoid fever hindered hemolysis and therefore contained sensibilisatrice. M. Widal with M. Le Sourd have endeavored to make the same experiments with typhoid patients during the invasion and course of the disease. In ten dothienterics they found the phenomenon in the course of the disease, in three as early as the ninth day, but in none was it possible to establish the presence of the substance at any earlier stage of the malady. The control experiments which they carried out with the blood-serum of forty patients afflicted with tuberculosis, erysipelas, gastric disorders, angina or other cardiac affections have given only negative results. The bacilli typhosi in these tests did not fix the alexine and the red blood-cells underwent hemolysis.

M. BERGOUIGNON reported in the name of M. HUCHARD and his own the case of a young woman, thirty years old, who manifested during the course of a pulmonary tuberculosis all the symptoms of cerebellar tumor, occipital headache, bilious vomiting, vertigo, titubation, etc., and who died in coma. The autopsy confirmed the diagnosis by revealing a large tuberculous mass in the right cerebellar hemisphere and in both cerebral hemispheres. The pia mater was covered by numberless small tubercular nodes and the two lungs were nearly destroyed.

M. PIERRE MERKLEN in the discussion said that the syndrome of cerebellar disease is often reduced to cephalalgia, but the characteristics of it are almost pathognomonic. Its seat is always occipital and its intensity is always augmented by the least effort, because exertion determines an increase in the intracranial pressure and adds to the hydrops of the ventricles, which is originated by the venastasis in the veins of Galen from the pressure of the tumor. The mechanism of this pathogenesis was well shown by an interesting case under his care some years ago. The patient was a young man who suffered from unendurable headache, occipital and increased by the slightest exertion. Its steady increase suggested the wisdom of a palliative trephining of the skull. The pain thereafter grew less, but the scar soon began to bulge and from it was aspirated large quantities of cerebrospinal fluid. Finally, the autopsy showed a cerebral hernia, containing the posterior horn of the lateral ventricle, a large hydrops of both lateral ventricles and a tuberculous tumor of the left cerebellar hemisphere, which, by pressure on the veins of Galen, had caused them to dilate and the lateral ventricles to fill. The same clinical history obtained in another case, but at the operation a cyst was evacuated and relief obtained.

M. TRIBOULET disputed the statement that cephalalgia is always a sign of cerebellar tumor, for he had a child among his patients, who never had any headache, but suffered from persistently recurrent vomiting and life was ended by a series of apoplectiform seizures. At the autopsy a cerebellar tumor was found.

M. GAILLARD found a hydatid cerebellar cyst in a man who had only severe headache, provoked to crises by the least exertion.

M. FAISANS exhibited a medical curiosity in a specimen of the thoracic viscera with the pleura much thickened and converted into a veritable shell, cartilaginous in some places and osseous in many others, containing in its cavity a thick turbid fluid in which all cellular elements had long since ceased to exist. This pleurisy dated back forty years and the patient had died after an operation, thoracentesis, rendered necessary by the displacement of the heart. Later in life the patient had also developed cirrhosis.

M. RENDU asserted that on general principles it is advisable to interfere at an early date with all recent empyemata, but it is always bad practice to do so when the pus is dead, free of all cellular matter and abundant only in cholesterine.

M. BARBIER pronounced the recent epidemic of diphtheria in Paris as unusually severe in that the false membranes not only are extensive, but also are inclined to increase notwithstanding all efforts and serumtherapy to the contrary. Furthermore, after an apparent disappearance, they seemed inclined to recur and to be associated with various disquieting symptoms. Consequently he has been practising what should be called an intensive serumtherapy, with M. Lobligeois, consisting in repeated injections of serum just as often as the indications called for, even until the patient had received 80, 100 or even 140 cubic centimeters of the remedy. A very special indication for this vigorous treatment is the existence of a tracheobronchitic complication. Further, in order to prevent diphtheritic paralysis, it is necessary to make the injections at the very first sign of the symptoms which always forerun paralysis.

Gonorrheal Arthritis.—Among the many remedies that have been tried in this disease, Toupet, Bourdillon, and others find that calomel injected into the muscles about the joint is as effective as any. They inject gm. 0.03 (gr. ½) every two to four days, the slight pain not causing any complaint.—M. THOMAS in *Le Mois Thérapeutique*, June 30, 1901.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF RUSH COLLEGE.

Regular Monthly Meeting, Held in Chicago, April 1, 1901.

Mediastinal Tumor.—Prof. Frank Billings presented this paper. The patient John J., age thirty-nine years, married, a laborer, presented himself January 23, 1901. The family history was negative. Previous health was good during his whole life, excepting an attack of bilious fever when twelve years of age. He uses alcoholic drinks very moderately; uses tobacco moderately, and denies venereal disease. A year and a half ago the present illness began with sharp lacinating pain in the right upper chest. This continued steadily, growing gradually worse until about three months ago, when he commenced to have a sharp ache in the left upper chest. This was aggravated by exertion and was especially bad at night. It was accompanied by radiating pain in the left shoulder and down the inner side of the arm to the elbow. The pain is worse when lying down and upon first moving about in the morning, but grows somewhat better after a little exercise. He has a dry cough aggravated by exercise, and the dyspnea of exertion. The voice has never been changed in quality. The appetite is capricious but digestion fairly good. The bowels are constipated. Patient is six feet in height, weight 135 pounds, a loss of 35 to 40 pounds from the full normal weight. The skin is sallow and muddy. The general appearance is one of cachexia. The eyes are negative. The larynx is negative. The superficial veins in the left pectoral region are dilated. Expansion of the chest is limited on both sides and is apparently due to want of muscular power. The respirations are rather rapid and shallow. The apex beat of the heart is visible and palpable in the sixth interspace in the nipple line. Dulness extends from the right sternal border at the top of the second rib to one centimeter outside the left nipple and upward on the left side to the third rib. No throbbing of the chest can be felt. At the apex of the heart a soft systolic murmur is transmitted downward into the seventh interspace and in the axillary line. No murmurs are heard at the base of the heart nor behind. The pulmonic and aortic second sounds are equal and not accentuated. The radial pulses are equal and synchronous. The carotids are equal and synchronous. The pulse is 96 per minute and occasionally intermits. The lungs are negative. The abdominal organs are negative. The urine normal chemically and microscopically. The blood shows 4,200,000 red cells, 70 per cent. of hemaglobin and 8,500 white cells.

This patient has been in the Presbyterian Hospital since January 26th and many examinations have confirmed the findings named above. Recently the radial pulses have been unequal, the left the smaller when the patient is sitting or standing, but they appear equal when he is recumbent. With rest in bed he has become more comfortable until now he no longer suffers from pain of any importance in the chest. The physical findings are, however, the same and an X ray photo shows a mass in the mediastinum just above the base of the heart. The diagnosis of mediastinal tumor is based upon the fact that the patient denies venereal disease, has a family of healthy children, his wife has never miscarried, the disease has been slowly progressive associated with loss of considerable weight accompanied with a cachexia. Furthermore, by the fact that in spite of the pressure being great enough to interfere with the circulation in the vein and at a point which must be near the transverse arch of the aorta and therefore near the recurrent laryngeal nerve and blood-vessels of the left side, it has not produced a change in the pupils or larynx or pulse which one would expect to find in an aneurism of the same region. On the other hand, the patient has improved with rest and with moderately large doses of iodide so that there is a possibility of aneurism and the diagnosis of mediastinal tumor is therefore tentative.

Malignant Mediastinal Tumor.—Drs. E. Fletcher Ingals and Otto T. Freer presented the history and pathological specimen of a case of this affection occurring in a man about thirty-five years of age. The first symptoms, consisting of coryza and tickling sensation in the throat, had begun about four months before he came under observation. Dyspnea began about a month later and had steadily increased. At the end of two months there had been some swelling and congestion of the face, and distention of the superficial veins were noted, but there had been no pain. When first seen the patient was strong and well nourished, but the cough was very troublesome and the dyspnea alarming if he lay down for a few minutes. There was dulness on the front of the chest over an area extending from the clavicles to the lower edge of the ribs and laterally about three inches each side of the sternum, with flatness over the lower part of the right chest. The fluoroscope revealed a dark shadow nearly corresponding to, though somewhat larger than, the area of dulness. The respiratory sounds were absent over a large part of the dull area and lower part of the right side but were nearly normal elsewhere. Tracheal râles indicated compression of this tube. The superficial thoracic and abdominal veins were moderately enlarged and upon stripping the superficial epigastric veins the blood was seen to be flowing downward because of obstruction of the superior vena cava. There were a number of slightly enlarged inguinal and cervical glands and the left vocal cord was paralyzed in the cadaveric position. The patient grew steadily worse and died in about two weeks.

Autopsy.—Postmortem revealed a larger anterior mediastinal sarcoma corresponding closely in size to the clinical findings. There were very slight changes within the abdominal cavity. There was a large collection of serum in the right pleura, extensive adhesions of the left pleura and the heart and larger blood vessels together with the trachea were much involved by the tumor mass. The very interesting pathological changes were demonstrated which explained the symptoms that had been observed before death.

Calculi.—Dr. Arthur Dean Bevan presented specimens of salivary, hepatic, pancreatic, renal, cystic calculi and reviewed the points in the etiology, pathology and natural history common to all of them. He also briefly reported the cases from which the specimens had been obtained and stated that all true stones consisted of two sustances of different origin: One, the frame-work of organic material derived from the mucosa of the duct or reservoir in which the stone was formed; the second, the crystallizable substances derived from the secretion of the gland in connection with this duct. He believed that the essential cause of true stone formation in any position was a catarrhal inflammation of the mucosa of mycotic origin.

Salivary Calculus.—In the case of salivary stones in addition to this essential cause, *i. e.*, mycotic infection, there was occasionally found as a nucleus, a foreign body which had worked itself into the ducts of the salivary gland. The germs producing a catarrhal inflammation of the mucosa which led to the development of salivary calculi gained access to the mucosa probably from the mouth through an ascending inflammation. The finding of leptothrix and other germ forms by Klebs and Gallippe in salivary calculi seemed to demonstrate this fact. One could not exclude, however, the possibility of such germs reaching the salivary glands and ducts through the circulation.

Gall-Stones.—In connection with gall-stones, the same etiological factors are present. The germs producing the essential catarrhal inflammation reached the mucosa of the bile-tract by an ascending inflammation from the intestines in some cases; in others probably through the blood carried to the liver. It is difficult to state which route is the more common as the germs usually found in gall-stones, the colon bacillus and the bacillus of typhoid, might reach the bile-tracts by either route. Foreign bodies are occasionally, but very rarely here, the nuclei of stone.

Pancreatic Calculus.—In connection with pancreatic stone, Dr. Bevan stated that the etiological factors were practically the same as in gall-stone formation. He called attention to the difficulty of diagnosing pancreatic stone and to the probability that it was more common than we have heretofore believed, also that it was probably an important factor in acute pancreatitis and fat-necrosis. The development of the surgery of the pancreas within the last few years makes us hopeful that in the near future we shall be able to diagnose and operate successfully for pancreatic calculi. In 1885, when Charles T. Parkes first suggested and planned choledochotomy, it seemed to the surgeons of that day as difficult an undertaking as the removal of a stone from the pancreatic duct seems to us to-day and yet choledochotomy soon earned for itself the position of one of the most successful and brilliant of surgical achievements.

Urinary Calculi.—In demonstrating a number of calculi from the urinary tract, he stated that we had here, probably, again the same etiological moments, viz., a catarrhal inflammation of the mucosa of mycotic origin. There could be no question that the germs producing this inflammation might reach the mucosa either by ascending the urinary tract or might be brought to the kidney or bladder by the blood. He believed the most common germ form here was the gonococcus, which represented the first route, and the bacillus of typhoid and the colon bacillus both probably representing the second.

The natural history and symptom complex are very much the same in all forms of calculi. They may remain for years innocuous without giving evidence of their existence; if they do give evidence of their existence, it is either because mechanically from change of position or increase in size, they interfere with the patency of the duct or reach a point in the duct too small for their accommodation, as in the passage of a stone through the common duct or a stone through the ureter; or more frequently, the cause of symptoms was the occurrence of a fresh infection of the mucosa—this infection favored by the presence of the calculus. The X ray is of great value in determining the presence of urinary calculi whether in the kidney, ureter, bladder or prostate. This means of diagnosing has not as yet been satisfactory in determining the presence of gall-stones excepting in a limited number of cases. Within the last few years much brilliant work has been done in kidney-stone surgery, thanks to this means of diagnosis.

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Stated Meeting, Held April 27, 1901.

The Vice-President, William B. Coley, M.D., in the Chair.

Acute Intestinal Obstruction Following Operations for Appendicitis.—This paper was read by Dr. Arthur L. Fiske.

It will appear in a subsequent issue of the MEDICAL NEWS.

The discussion was opened by Dr. Charles L. Gibson, who said that appendiceal troubles and

operations for appendicitis are a common cause of intestinal obstruction. The most frequent cause of acute obstruction of the intestines is the formation of bands beneath which the intestine becomes nipped. Out of one thousand cases of intestinal obstruction collected some time ago by Dr. Gibson, nearly 200 were due to adhesive bands. The frequency with which intestinal obstruction is located in the right iliac region is a sure sign that the adhesions and other pathological conditions which cause the obstruction are due to an antecedent appendicitis. In a certain number of cases, stricture of the rectum is also due to the inflammatory conditions consequent upon appendiceal affections. The inflammatory products gravitate down into the pelvis, especially when the situation of the appendix has been such as to favor this gravitation. The connective tissue formed by the eventual organization of the inflammatory tissue has a tendency to contract, which accounts for its production of intestinal obstruction and also of the narrowing of the lumen of the rectum.

Appendix as Constricting Band.—Dr. Gibson has seen the appendix itself as a constricting band in certain cases of intestinal obstruction and in the literature of the subject this portion of the intestine is mentioned not infrequently as the source of the obstruction. When the tip of the appendix becomes inflamed it is liable to contract attachments to surrounding structures and these prove the source of obstruction later on, when the acute inflammatory condition subsides.

Prophylaxis of Subsequent Intestinal Obstruction.—After operations upon the intestines in which there has been considerable inflammatory exudate thrown out it is advisable to have the function of the intestine recommence as soon as possible after the surgical intervention. For this purpose early free catharsis seems especially indicated. McCosh's injection of concentrated salt solution commends itself as an excellent remedial measure for this purpose. It is Dr. Gibson's custom to inject an ounce of Epsom salts dissolved in as little water as possible just beyond the part of the bowel that has been operated upon. In cases of appendicitis the injection is made through the stump of the appendix. As soon as the patient is able to take medicine by the mouth, calomel is given. The custom of injecting the salt solution in the manner described is a source of great comfort to the surgeon, who realizes that the restoration of the function of the intestine is practically immediate. The habit of doing so also saves the patient a good deal of inconvenience, and improvement after nutrition comes sooner since the patient's stomach is not disturbed by purgative medicines.

Decrease of Intestinal Obstruction.—Dr. John B. Walker said that intestinal obstruction has become more infrequent of late years. There is no doubt that the more careful diagnosis and surgical care of appendicitis has something to do with this. Post-operative intestinal obstruction is rarer than it was, because operations are usually aseptic and much more care is taken not to leave raw surfaces that may prove the origin of adhesions. It must not be forgotten that sometimes intestinal obstruction in its initial stage, before the symptoms have become too severe, will yield to high enemata.

Pressure as Cause of Adhesions.—In one case in Dr. Walker's recent experience the symptoms of intestinal obstruction developed about six days after an operation for appendicitis. There had been a large abscess and a considerable amount of gauze was used for packing. The intestines were thus pressed tightly together and this was doubtless the cause for the formation of adhesions that led to the knuckling of the intestines and consequent occlusion of the canal. The symptoms were not of the severest type and vomiting did not occur, but there was almost constant hiccoughing. Reopening of the abdomen showed that adhesions had been formed between the stump of the appendix and the knuckle of intestine. The adhesive bands that form in these cases are more often the cause of intestinal obstruction than any other pathological condition.

Adhesive Bands after Appendiceal Operations.—Dr. Edward M. Foote said that he had seen a series of autopsies after death from delayed appendix operations, but had never seen any adhesions formed in the appendiceal region. Death in these cases was due to sepsis. Mechanical elements, such as the presence and pressure of gauze, undoubtedly play an important rôle in bringing about the development of adhesions. In recent years, when the technic of appendiceal operations has been made more perfect, the development of such adhesions is much less frequent than it used to be. Covering in all exposed surfaces and not allowing the stump of the appendix itself to remain as a raw surface from which the oozing lymph may easily lead to the formation of adhesions are important precautions.

Acute Obstruction with Gangrene.—Dr. William B. Coley said that he has not seen any cases of intestinal obstruction after appendicitis except this recent one. A boy of ten was operated upon for appendicitis and made a perfectly good recovery. Six months after the appendicitis operation he had an acute attack of intestinal obstruction. He was in the country at the time and had to be operated on under somewhat unfavorable circumstances. The operation was delayed until it was scarcely more than a last resort and the patient's condition was almost hopeless. Three and a half feet of the intestine were found to be gangrenous. The patient's condition was so bad that it was feared that the continuance of the anesthesia and of the exposure of the intestine for a length of time sufficient to perform intestinal anastomosis would surely prove fatal. Both ends of the intestine resected were

brought out to the median line and secured there. The patient made a reasonably good recovery. The end of the intestine from which the intestinal contents came was rather high up in the ileum. As a consequence the patient's nutrition suffered very severely.

Resection and Anastomosis.—Three and one half years after the original enterostomy the patient came under Dr. Coley's treatment in a state of severe emaciation as the result of his intestinal fistula. A radical operation was done, both ends of intestine being resected and the two portions of the severed gut brought together by means of a Murphy button. The operation proved a perfect success, but, though the patient remained for four weeks under careful observation in the hospital and the button was faithfully looked for at home, no trace of it was ever found. Just what has become of it remains a mystery. The patient gained twenty-eight pounds in six weeks and is now in excellent condition and without a symptom from his surgical experience. Dr. Coley is of the opinion that intestinal obstruction will occur less and less frequently, as appendicitis is treated better and earlier, and that post-operative obstruction will be lessened by the thorough removal of all inflammatory products at the time of the operation, that is, as far as is possible, and by taking due precautions not to leave any raw surfaces exposed.

Old Appendicitis in Intestinal Obstruction.—Dr. Arthur L. Fiske said in closing the discussion that Treves thinks most intestinal obstruction is due to bands of connective tissue formed as the result of chronic inflammatory conditions in the neighborhood of the appendix. Other authorities agree with Treves in this matter and there seems no reason to doubt that the better treatment of appendicitis in our day will lead to a reduction in the number of cases of intestinal obstruction that occur. Even when intestinal obstruction does occur after operations for appendicitis, the condition cannot always be considered as due to the operation. It might very well have developed in the ordinary course of the inflammatory process and the operation may indeed have delayed their formation, or rendered their effect upon the intestine less serious. In order to avoid the formation of adhesions at the time of an appendiceal or other intestinal operation, the use of salines in the bowel seems advantageous. Peristalsis is stimulated at once and the intestinal adhesions are broken up early or avoided entirely.

High Enemata in Intestinal Obstruction.—In Dr. Fiske's opinion the use of high enemata when symptoms of real intestinal obstruction have developed is never of avail. In three of his cases they were faithfully employed, but did absolutely no good. In very bad cases they always involve a certain amount of danger. In other cases they mean the loss of precious time. Time is the main element in the prognosis of intestinal obstruction. Changes in the bowel rapidly take place. Once complete obstruction has been established the conditions for good surgery very soon disappear. It is a relic of medical tradition to use high enemata, but it really seems in most cases scarcely wise to make the delay for this unavailing purpose. It is doubtful if the liquid of the high enema can ever be forced beyond the ileocecal valve. In infants, in whose elastic tissues the attempt should succeed if anywhere, Dr. Fiske has often tried to force water by pressure beyond the ileocecal valve, in cases of intestinal invagination, but has always failed. Cases reported in literature show that where pressure is employed rupture of the bowel is apt to take place. Once the diagnosis of intestinal obstruction is made, operation should be done as soon as possible. Where the operation is performed early, the prognosis is reasonably good. Not more than 25 per cent. of patients operated on during the first twenty-four hours of their symptoms of acute intestinal obstruction will be lost. After the first twenty-four hours the mortality doubles.

Post-Appendicitic Obstruction.—Intestinal obstruction which develops after operations for appendicitis seems to be due to collapse of the abscess wall and consequent kinking of the intestine which forms part of the wall. In these cases, as the result of agglutinative processes, owing to the new mechanical conditions established, there is apt to be a sharp angle made in a fold of intestine, and this leads to congestion, stoppage of peristalsis and to complete obstruction. With the first symptoms of intestinal obstruction, careful watch should be kept of the patient, and if the symptoms increase the abdomen should be opened. If this procedure were followed with confidence in every case, the mortality of the operation by intestinal obstruction would be greatly lowered. The bother so far has been that operation for intestinal obstruction is looked upon as a last resort, somewhat as a forlorn hope. This is a legacy from the days when aseptic surgery of the abdominal cavity was unknown, and when a great majority of patients on whom laparotomy was done necessarily perished. The condition that exists and that causes the intestinal obstruction is a very simple one. As a rule, only thin, fibrous bands of adhesions are found, but these are sufficient to bind the intestine down at an acute angle that occludes its lumen. These can be very easily broken up and the lumen re-established after laparotomy.

The Harvard Medical School.—Dr. Edward M. Foote presented a series of statistical details showing the comparative standards of the prominent medical colleges of the country. This table makes it clear that Harvard is retaining her position of pre-eminence among the medical schools of the country in the best sense of that term. Harvard has more profes-

sors and instructors in her medical department, devotes more time to laboratory and clinical work, requires a higher standard for admission to her medical school and demands a more thorough knowledge of medicine for graduation after her course is completed.

CHICAGO PATHOLOGICAL SOCIETY.

Stated Meeting, Held May 13, 1901.

The President, L. Hektoen, M.D., in the chair.

The Cellular Changes in Tuberculous Meningitis.—Dr. I. B. Diamond presented a paper on this subject. Plasma, lymphoid and phagocytic cells form the greater portion of the cell-infiltrations in the vascular and extravascular areas of the leptomeninx in acute tuberculous meningitis. The plasma and lymphoid cells emigrate largely from the lymph-spaces of the arterial adventitia and from the finer capillaries. They proliferate largely by indirect division, a certain number, however, are derived from lymphoid cells. There are two kinds of phagocytes (1) those which proliferate from the endothelial lining of the capillaries and lymph-spaces, and (2) those from the subendothelial intimal connective tissue. The most important of the vascular changes—the tuberculous endarteritis—develops in the following manner: Plasma and lymphoid cells accumulate underneath the endothelium of the intima; later the subendothelial intimal connective tissue cells are found mixed with the former. They proliferate next to the elastic coat, are to a certain degree phagocytic and resemble epithelial cells. They also run together and form giant cells and in this manner characteristic intimal tubercles develop. Changes of the endothelial lining of the arteries occur later, especially when there is caseation or hyaline degeneration of the collection underneath. Of interest is the great production of plasma cells which is analogous to the cell changes described by Councilman in acute interstitial nephritis, while on the other hand, the production of phagocytic cells is analogous to the cell changes described by Mallory as occurring in typhoid fever.

Bubonic Plague.—Dr. Lewellys F. Barker presented gross and microscopic specimens of the buboes and internal organs removed from Chinese dead of plague, in San Francisco. The demonstration was accompanied by a brief description of the pathology and pathogenesis of bubonic plague. In the bubonic form of the disease the lesions in the lymph-glands and surrounding tissues—edema, hemorrhage and necrosis—are very characteristic. The changes in the spleen are more marked in the septicemic form than in the bubonic form. The specimen of spleen under the microscope showed extensive necrosis of the splenic framework and pulp, with wandering in of polymorphonuclear leucocytes. Primary plague pneumonia is distinguished from aspiration pneumonia and from embolic pneumonia occurring as complications of plague. The enormous number of bacilli present, the abundance of blood in the exudate, and the small part played by fibrin, are interesting features. The question of portal of entry was discussed in connection with the various clinical types, and an effort was made to explain the fact that local lesions in the skin and mucous membranes and lymphangitis are rarely present, the first outspoken lesions occurring in the nearest packet of lymph-glands.

Atresia of Follicles.—Dr. Leo Loeb demonstrated microscopic section showing the difference between the atresia of follicles in different stages of maturity; also microscopic sections of two ovaries of a guinea-pig in which all follicles presented the picture of hypertrophy of the epithelium and in which the atresia without exception started by the ingrowth of connective tissue and capillaries into the follicular epithelium. Two slides were demonstrated showing follicles in the process of atresia, each one of which contained two ova. In one of these two follicles both eggs showed progressive changes; in the other follicle, one ovum was unchanged and well preserved; the other ovum was segmented. In a third atretic follicle, of which a slide was shown, in which three ova were present, two of these were unchanged, the third ovum had undergone certain changes, the exact nature of which could not with certainty be determined. Another specimen showed a structure resembling very much a small corpus luteum, in the center of which, however, two successive sections demonstrated the presence of an ovum. At present it must be left undecided, if in this case the ovum of a ruptured follicle was retained and a corpus inteum had formed around it, or if under certain conditions a follicle which had not ruptured previously might in the stage of atresia give rise through hypertrophy to a structure similar to a small corpus luteum.

Perforation of Stomach by Gastrolith.—Dr. Maximilian Herzog presented a gastrolith composed of persimmon seeds which had caused perforation of the stomach and death in a three-year-old boy in the practice of Dr. Cargile of Bentonville, Ark.

BOOK REVIEWS.

ORAL SURGERY. A Text-Book on General Medicine and Surgery as Applied to Dentistry. By STEWART LE ROY MCCURDY, A.M., M.D., Author of "Manual of Orthopedic Surgery"; Professor of Anatomy and Surgery, Pittsburg Dental College, Surgeon P. C. C. and St. L. R. R., etc. By the Calumet Publishing Co., Pittsburg, Pa.

IN looking through this book we have labored

long and faithfully to find something worthy of commendation, but our efforts have been unrewarded. It may be that the volume bears concealed somewhere between its flaming covers a gem that has eluded our search; if so, we apologize most sincerely, but the very difficulty of the undertaking stimulated us in our attempt to unearth some point on which we might hang a little word of praise and we were honestly grieved to find our good intentions frustrated at every turn. It is all too apparent that the book is one of a class that is rapidly increasing in these days, when teaching positions are easy to obtain and unfortunate students are morally coerced into buying a rubbishy compilation masquerading as a text-book simply because it bears on the title page the name of one of the faculty. The present instance offers a most striking example of the deplorable results to which the *furor scribendi* may lead, and the author cannot even justify himself, as did a witty writer of a former century, by saying:

"Ce livre n est pas long, on le lit dans une heure,
"La plus courte folie est toujours la meilleure."

for he is responsible for over 350 pages of bad writing, bad printing and bad illustration.

A TREATISE ON APPENDICITIS. By GEORGE RYERSON FOWLER, M.D., Professor of Surgery in the New York Polyclinic; Surgeon to the Methodist-Episcopal Hospital, etc. Second Edition, Revised and Enlarged. J. B. Lippincott Company, Philadelphia and London.

APPENDICITIS, ITS PATHOLOGY AND SURGERY. By CHARLES BARRETT LOCKWOOD, F.R.C.S., Assistant Surgeon and Lecturer on Descriptive and Surgical Anatomy in St. Bartholomew's Hospital, etc. The Macmillan Company, New York.

INFLAMMATION of the appendix and surrounding structures has now become one of the commonest ailments the surgeon is called upon to treat and each year the statistics are piling up an increasing rate of morbidity from this cause. The almost meteor-like development of this condition is quite unparalleled in the history of medicine and no other disease has ever sprung to so prominent a place in such a short space of time. The study of the subject is fast verging into a specialty and the appearance in quick succession of numerous monographs is a certain index of the importance it is assuming. Whether we attribute the greater number of cases seen to-day simply to our better understanding of the lesion and, consequently, more accurate diagnosis, or hold with those who contend that, owing to hereditary, developmental and other obscure reasons, the race has actually become more susceptible, it is very evident that no physician is to-day competent to practice who has not given this subject more than passing attention.

The two volumes before us differ rather more radically than is apparent from their titles and, while both are of a very high order of merit and equally deserve the gratitude of the profession as adding to our knowledge in a field where much is still uncertain, we think that the American author will be found more generally useful to the average practitioner. Dr. Fowler's book, already in its second edition, is eminently practical and is full of information, particularly as to diagnosis and treatment, that will be of utmost value even to the accomplished surgeon. The elevated head-and-trunk position, which, we believe, is original with the author, is but one of many similar expedients described by him. It consists in raising the head of the bed twelve to sixteen inches, the patient being kept from slipping down by a pillow tied in place beneath the flexed knees. The object of the maneuver is to favor the gravitation of septic material away from the dangerous areas of absorption in the peritoneum, while the nausea and vomiting also are materially decreased and normal peristalsis favored.

Lockwood approaches the subject rather more as a pathologist and gives the clinical history, the operation and morbid anatomy, the morbid histology and a brief commentary on 83 cases that have come under his observation. Chapters on clinical symptoms, indications for operation, the technic of its performance, and after-treatment are added, but are less complete than in the American book. The nomenclature of the disease has already given rise to many wordy battles and the author enters the lists with a mild but still comprehensive criticism of most of the terms in common use, such as "relapsing," "recurrent," "suppurative," "perforative," and "gangrenous appendicitis," "appendicular colic," "perityphlitis," used as a synonym for appendicitis, etc., which in one sense is perfectly just since it is true that these designations have a purely clinical value and do not indicate definite pathological conditions, for many kinds of appendicitis may end in perforation or relapse, and appendicular colic probably never occurs without some histological lesion, etc. But these terms have been generally accepted by the profession and convey clear impressions to most of us, while the author's proposed substitutes, such as "appendicitis with ulceration of the mucosa and bacterial invasion," "appendicitis with ulceration of the mucosa and perforation," although they correctly define the pathological condition existing, are quite too cumbersome for ordinary use. About fifty microphotographs of sections of appendices are used to illustrate the text, but, while some of them are admirable, for the most part, as is usually the case with such reproductions, they are far less instructive than well-made drawings would be.

We hope that the differences of general scope existing between these two excellent works have been to some extent indicated; both are good, but for the man with a limited library Dr. Fowler's book will undoubtedly prove more satisfactory, while those especially interested will find much that is valuable and worthy of consideration in the work of his English colleague.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

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ORIGINAL ARTICLES.

AN IMPROVED METHOD OF TREATING HIGH-SEATED CANCERS OF THE RECTUM.

BY ROBERT F. WEIR, M.D., (HON.) F.R.C.S. ENG., C.F.S.C. PARIS,

OF NEW YORK;

PROFESSOR OF SURGERY IN THE COLLEGE OF PHYSICIANS AND SURGEONS, COLUMBIA UNIVERSITY; PRESIDENT OF THE NEW YORK ACADEMY OF MEDICINE.

MANY will agree with me, I fancy, in considering the Kraske operation a very unsatisfactory one for the removal of high-seated cancers of the rectum. In addition to the depth of the wound, the more or less jagged invasion of the peritoneal cavity, the possible difficulty of satisfactorily drawing down the upper portion of the bowel, and, finally, the trouble that is involved in the proper suturing of the preserved portion of the rectum to the proximal end, all render it, with its annoying hemorrhage, an operation that is often in my judgment and experience troublesome and devoid of surgical neatness and precision. It is true that within four to five inches from the anus the affected part of the bowel within the area can be easily reached and removed and a fairly satisfactory sacral artificial anus created if the anus is involved. But if the anus and, say, two inches of that end of the rectum can be saved, a point which is of great importance to the subsequent comfort of the patient, which means a tumor at least three inches from the surface and to do which the bowel above must be liberated and brought down, then the foregoing objection applied to the surgical procedure in vogue must be taken strongly into consideration. They apply as well to the methods of approach from behind as in Kraske, or from the front (by the vagina) as has been recently advised. The latter I have not essayed, but an experience of over 20 cases of Kraske resection, 9 of which were followed by an attempt at union of the divided rectal ends, has markedly impressed me with the desirability of attacking high-lying cancer of the rectum in a somewhat different method.

Last year, *i.e.*, in January, 1900, I ventured to practise such an extirpation after the plan that Maunsell (then of New Zealand) had advised.[1] His suggestion, as you may remember, was, to open the abdomen above the pubis, separate the peritoneum from the bowel largely, and then to pass a loop of tape by a long mattress needle from the opened pelvis through the rectum and out the previously enlarged anus. By this he proposed to pull down the neoplasm loosened by its peritoneal divisions and by some additional blunt dissection and the finger, so that it would appear at the anus, everting the lower part of the rectum as it protruded. If the protrusion was accomplished, and to do this it might be necessary to acquire more room by freely dividing the anus back to the coccyx, then the tumor was removed and two ends of the bowel now, so to speak, out into the cold world, were easily connected with sutures and then replaced, the final step being the suturing of the divided peritoneum. This was a finely conceived operation but it did not work with me in my trial of it, the hitch being that the tumor would not pass through the divided anus and that the forcible traction enlarged the tape openings into the bowel so much that escape of its contents was possible. I therefore changed the plan of procedure in this way. My fingers had freely detached the divided peritoneum so that the bowel and the entire contents of the sacral curve were liberated behind nearly to the tip of the coccyx and in front to the edge of the prostate. This gave me room to tie around the bowel some three inches from the anus a couple of iodoform tapes about an inch apart. The intestine was then cut through and being free was readily raised out of the abdominal wound and held aside by an assistant. The lower end of the rectum was then seized by forceps in the hands of an assistant who drew it down and out of the anus in an everted condition. Untying the tape that closed this everted bowel, its lumen was opened so that a long pair of forceps could be carried through it up into the pelvis, when the end of the upper bowel was brought down within its clasp and by it the latter was drawn through the lower bowel out into the world. A couple of needles passed through the invaginated ends of the bowels, near their margins, allowed easy union by sutures of their edges with their knots inside the bowel and replacement of the same then was done. After the peritoneum had been sewn together and to the bowel, so that the pelvis and general abdominal cavity had been separated from one another by the peritoneal shelf, I deemed it best to provide drainage from the peri-intestinal space below by a tube introduced from just in front of the coccyx. These details will be better understood on inspection of Figs. 1 to 4 which accompany this paper.

The outcome made a delightfully satisfactory operation and its success justified its repetition in two other recent cases, all of which are here appended. Two of these recovered and one died, not from any peritonitis, but from a persistent diarrhea without temperature elevation. In the two that recovered inspection shows no recur-

[1] Lancet, August 27, 1892.

rence, eighteen months and nine months respectively after the operation. It was necessary in each case some three to six weeks afterward to use a No. 7 or No. 8 Wales rectal bougie, for there was somewhat more stenosis than is seen in the reunion of peritoneally covered bowel-ends. This, however, was to be expected in a measure. The patients are well and in good health, and have one or two movements daily with ease.

Some points are worth touching on a little more fully.

Concerning the Division of the Peritoneum.—

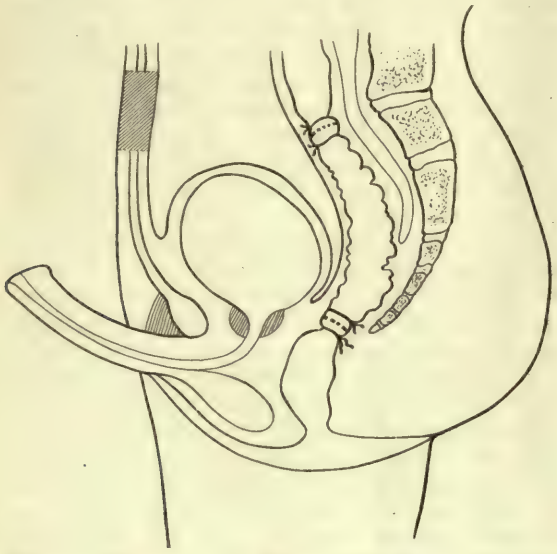

Fig. 1.—Tying off the tumor through an abdominal incision after separating the peritoneum from sacrum and bladder (or vagina).

By drawing the neoplasm backward the folds of the peritoneum stretching from the bladder in the male and from the uterus in the female are rendered prominent and a small cut is made in each; through these openings a pair of scissors curved on the side, or the common bandage scissors, can be introduced just under the peritoneum and this divided up to the bowel across and behind it. A transverse cut across the front of the bowel joining the two knife punctures frees the bowel entirely and by pushing downward anteriorly the prostate is soon reached. However, before peeling off the sacral tissues, I have found it advantageous to search for and to tie the superior hemorrhoidal artery, as this renders the operative field nearly bloodless. This exposure of the lateral curve can be carried much further upward should necessity arise in a hunt for enlarged glands. If the lower blade of the scissors is kept persistently against the under surface of the peritoneum no risk of damage to vessels, nerves, etc., is incurred.

As to Surgical Cleanliness.—The risk of this and similar procedures is, of course, the probable abdominal sepsis from the divided ends of the bowel. I have not only exercised generally particular care, but, as soon as the lower division has been accomplished, have touched the divided exposed mucous membranes with pure carbolic acid which is promptly washed off with alcohol, and similarly treated the upper divided gut as it rests outside the abdomen. Prior to putting in the final sutures and while the bowel-ends protrude from the anus, this cauterized portion was cut off also. After the erosion of the lower bowel the whole pelvis is repeatedly washed out by sterile salt solution, being under good exposure by the retraction of the intestines above by pads, or by a broad wire-handled retractor, three by eight inches, covered with gauze, which admirably keeps them back like a diaphragm. I prefer this to a diaphragm that Maunsell originally proposed.[1]

The Anus and the Drainage.—In my first case to enable me to extract the neoplasm by traction I freely divided the anus backward with somewhat prolonged impairment of power. In the other two cases only stretching in the usual way was resorted to. In all the cases a short drainage-tube was carried up to the site of the line of suture and inside the bowel was placed a small rubber tube covered with iodoform gauze. The signal precision of this operation, its freedom from hemorrhage and its thorough exclusion of the area of trauma from the peritoneal cavity led me to hope that it may come into more general use; it conduces to the desired end in such diseases, which is more thoroughness in their extirpation.

It is especially important to have a reliable assistant in this procedure. He should evert the

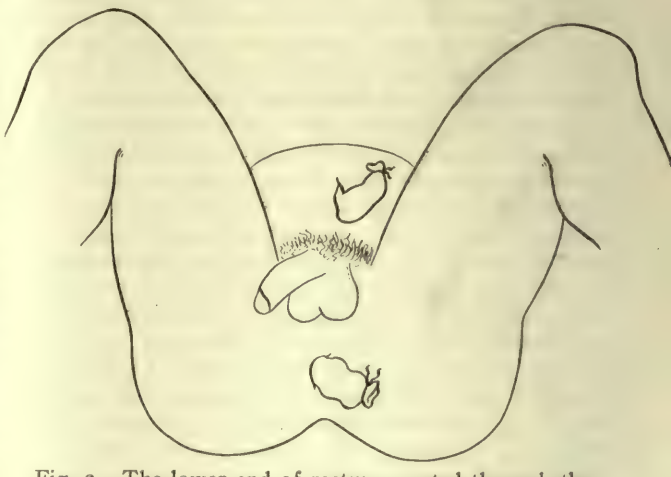

Fig. 2.—The lower end of rectum everted through the anus and the upper bowel drawn out of the abdominal cavity.

lower bowel, pull down the upper, conduct the suturing, replacement and drainage. The surgeon in charge had better restrict himself to the interior abdominal work and thus be able to maintain the required asepsis. It is true that the use of rubber gloves, so easily disinfected, or so readily changed as they are, will often do away with this need.

[1] Loc. cit

Case I.—Mr. C. H., aged sixty-four; referred to me by Dr. Knickerbocker in January, 1900, with the history of pain in the lower bowel for over a year, with constipation increasing in character and with occasional attacks of obstruction. Loss of flesh moderate, not more than ten pounds. Some loss of strength. No anemia. On examination a carcinomatous mass could be felt about four inches from the anus. Into this the tip of

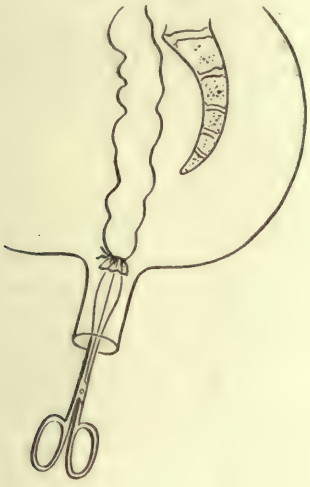

Fig. 3.—Upper bowel drawn out through everted lower end of rectum.

the forefinger could be passed sufficiently to enable one to determine that the mass above could be moved quite freely. The upper end of the neoplasm could not be reached.

On January 30, 1900, rectal extirpation by Maunsell's method by abdominal section was attempted, with the assistance of Drs. Frank Hartley, Foote and Taylor. Nitrous oxide gas with

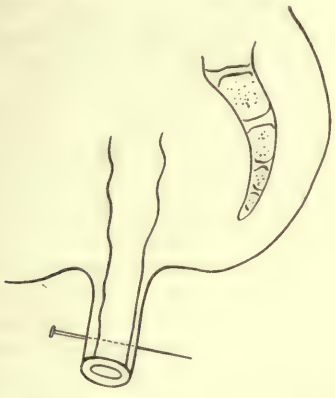

Fig. 4.—The ends of the two portions of the bowel sewn together.

oxygen was administered by Dr. Goldan. The bowels had been freely moved on the previous day, as I do not like fecal flooding at the time of operation. After the abdomen was opened a transverse septum of gauze, three by eight inches, stretched on stout copper wire was used to retain the the small intestines above the pelvis. It answered its purpose very well. The peritoneum was cut through on each side of the rectum back to the sacrum, also across just behind the bladder. The contents of the sacral curve were peeled off after tying the middle sacral artery. Several small glands were found here. None could be found above the upper limit of the peritoneal division. An attempt was made to pull down the growth by means of a loop of tape drawn through the upper part of the tumor out through the anus, but this failed although the anus had been enlarged and the rectum itself previously dilated by Dr. Hartley with specula and fingers. The tugging not only failed, but tore the gut badly and was abandoned as impracticable. Therefore a tape of iodoform gauze was applied around the rectum below the tumor and a clamp was fastened just above this. On dividing the intervening intestine it was possible to lift the tumor out of the abdominal cavity, and, after a little further liberation of the peritoneum covering the mesentery, the tumor, which

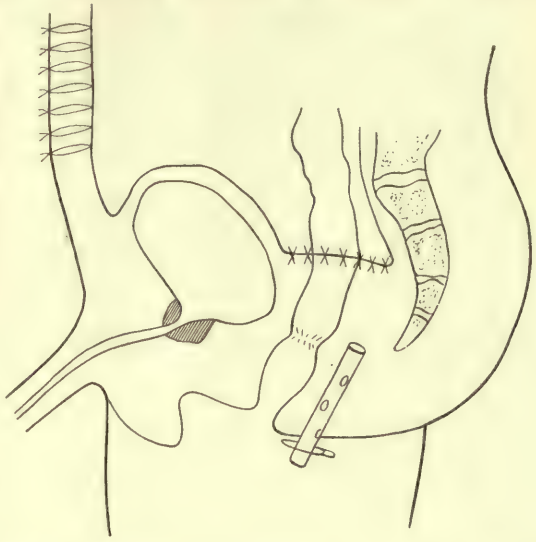

Fig. 5.—The everted bowel replaced, with posterior drainage and the divided peritoneum so sewn together as to shut off the general peritoneal cavity from the pelvis.

was four inches long, its upper limit being between eight and nine inches from the anus, was cut off. The tied end of the bowel remaining was sterilized with pure carbolic acid as was also the anal end of the rectum left in the pelvis. Dr. Hartley with forceps then seized the lower portion of the bowel and, everting it, caused it to protrude through the anus. Another introduction of the forceps through the everted gut caught the end of the upper bowel and this in turn was drawn through the everted anal portion. Both ends of the rectum were held *in situ* for a time by two long straight needles passed across their wall at right angles near the suture line, which was freshened by cutting off the cauterized flaps. Between 20 and 30 interrupted fine chromicized catgut sutures were used to close the circumference of the bowel. I then drew up into position by slight traction the

united portion. The divided peritoneal edges were carefully sewn together by interrupted sutures after free irrigation of the raw pelvis, which was drained from below by a drain inserted through the wound and reaching to the coccyx. The operation lasted over three hours by reason of the time spent in endeavoring to pull down and drag out the tumor in accordance with Maunsell's directions. The patient did not suffer from shock, but there was complete muscular and sensory paralysis of his entire left arm. During the anesthesia both arms had been fastened above his head which latter was done for ease of working the somewhat cumbrous apparatus of the mixed anesthesia, and had been kept strongly to the right side thus all the more stretching the brachial plexuses. It may be said that it required some six months for him to recover from this, my first, experience in positive paralysis. His recovery from the operation was satisfactory and prompt. He was up and about in three weeks. A slight mural abscess delayed a little his progress. He noticed at the end of six weeks some little trouble in defecation and I found on examination that a cicatricial contraction linear in character, had occurred which yielded to a No. 3 to No. 8 Wales bougie in the course of a month. Since then he has been in good local and general condition.

Case II.—Mrs. A. H. T. Admitted to Roosevelt Hospital, October 17, 1900, with the following history. Six months before admission she noticed that her stools were preceded by the passage of blood and mucus. This continued without any considerable increase. Six weeks before admission pain was felt deep in the pelvis; it was not increased by defecation, was aching in character, but worse at times. No diminution in size of fecal mass. Bowels regular. Slight loss of flesh. Her general condition was good. Examination showed three and one-half inches from anus an ulcerated mass one and one-half inches in width attached to anterior and left side in a sessile manner; the finger could not reach above it; it was slightly tender, but not markedly hard; there was no constriction; no glands were felt; no bleeding from examination; rectum slightly movable.

October 27, 1900. Anesthetic, gas and ether. Trendelenburg position. Celiotomy in median line; intestines retracted upward by gauze-covered retractor. Tumor found running upward and involving the upper part of rectum and lower part of sigmoid. Peritoneum divided on each side of diseased gut. Four and one-half inches excised between ligatures. Distal stump invaginated through rectum and anus. Ligature removed; proximal stump then drawn through invaginated distal portion; a circular enterorrhaphy done outside rectum. Gut again retracted into abdominal cavity; peritoneum sutured over it. Abdominal wall closed. Drainage tube inserted posterior to anus. Operation almost bloodless. Carcinoma involving lower sigmoid and upper rectum along anterior and lateral walls for three inches; glands in hollow of sacrum not much involved; tumor movable. Uneventful recovery; bowels moved on the ninth day; all drains removed and wounds healed by the fourteenth day; slight discharge of muco-pus from rectum for two weeks more. The patient then developed pulmonary tuberculosis; transferred to medical side from which he was discharged improved, December 20th, 1900. Three months after the operation a smooth hard stricture was felt, admitting No. 6 and No. 7 Wales bougie. Movements twice a day. In good general health when seen in May, 1901.

Case III.—Man aged fifty-four years, sent to me by Dr. Forman of Freehold, N. J., with a history of rectal trouble of many months' duration. On examination a carcinomatous ulceration was found stretching from about two and one-half inches from the anus upward, so that deep above the pubis its impulse from below could be felt. The patient was only in fair condition.

The operation was done in the manner previously described, but it varied in two ways. There was much more than the usual oozing, and, after opening the peritoneum and separating the wall, it was found that the infiltration of the carcinoma extended along the right lateral wall toward the anus, so that there was at this point not more than one to one and one-half inches of sound intestinal wall. This in its eversion demanded its truncation and also additional loosening of the upper bowel from its mesentery. The other steps were as usual. The patient did well for twenty-four hours and then began to have a diarrhea, without pain, vomiting nor distention, which was uncontrollable and which brought about a fatal issue at the end of the fourth or fifth day.

A CASE OF EMBOLISM OF ONE OF THE RIGHT LENTICULO-OPTIC ARTERIES COMPLICATING PNEUMONIA, WITH AUTOPSY.

BY CHARLES J. ALDRICH, M.D.,

OF CLEVELAND;

LECTURER ON CLINICAL NEUROLOGY AND ANATOMY OF THE NERVOUS SYSTEM IN THE CLEVELAND COLLEGE OF PHYSICIANS AND SURGEONS; VISITING PHYSICIAN AND NEUROLOGIST TO THE CLEVELAND GENERAL HOSPITAL AND DISPENSARY; NEUROLOGIST TO THE CLEVELAND CITY HOSPITAL.

H. W., aged eleven years, male, white, born in United States, was seen in consultation with Dr. A. S. Elliott, May 16, 1900. The patient had previously had good health and his father and mother are both healthy people. Three children of this family have died; one from an aural abscess; one from pneumonia and the third, while in apparent good health, was seized with convulsions and died without regaining consciousness. There remain three other healthy children. The mother has never had a miscarriage nor stillbirth.

The boy's illness began May 3rd. He returned from school complaining that another boy had struck him on the left shoulder with a baseball bat. His brother, with whom he slept, said that he tossed about all of that night. A physician was called in the morning who thought the dif-

ficulty was due to a cold and left some medicine, but called later in the day and found the boy in delirium. He had quite a high fever and a dry hacking cough. The next morning when the physician called he found the patient better and said that it was unnecessary for him to call again.

The boy became delirious before night and Dr. Elliott, the family physician was summoned in the morning and found him with a temperature of 104° F.; rapid pulse; coughing; spleen slightly enlarged and abdomen tympanitic; slight diarrhea and stools of a pea-soup green. He made a diagnosis of croupous pneumonia with a possible typhoidal infection. The high temperature continued for several days and then began to recede gradually, although he continued in delirium.

Four days preceding my visit, and on the ninth day of his illness, he began to have general jerky, choreic movements which continued without intermission for over twenty-four hours, at the end of which time, it was noticed that he no longer moved the left arm or leg; the face, however, was not drawn to one side. The pupils were wide throughout his illness. There had been no skin eruption and he did not complain of stiff neck, neither was there any rigidity of the neck or spine. Since the advent of the paralysis he had lain in bed with his head turned toward the right with a conjugate deviation of his eyes toward the same side—away from the paralyzed side.

Examination.—The boy is of good height for his age, rather thin, face is pale. He lies with his lips apart, between which can be seen his teeth covered with sordes and a foully-coated tongue. It is observed that he does not move the left arm or leg, that his head is turned to the right, and, also, that both eyes are looking toward the same side, a typical conjugate deviation—turning and looking away from the paralyzed side and toward the brain lesion, as it were, thus demonstrating the lesion to be destructive in character. The pupils are widely dilated and react slightly and slowly to light. There is no evidence of other disturbance of the ocular muscles. Neither are the facial muscles weak nor paralyzed.

The ophthalmoscope fails to reveal any changes in the disks. He answers questions in a whining tone and in monosyllables only. He takes quite a good deal of nourishment and seems to digest it. He swallows well, sleeps well, and during our examination had an involuntary movement of the bowels. The abdomen is flat, liver slightly enlarged and the spleen not palpable. There is neither rigidity of the back nor legs, and, except the muscular spasm which turns his head to the right, there is no rigidity of the neck. *Tâche cérébrale* is very marked, knee-jerk cannot be elicited on the right side and is so faint as to be questionable upon the left. The various skin reflexes on both sides of the body are normal and there does not seem to be any loss of sensation. Titulation of the sole of the right foot produces the normal movement of the toes, but Babinski's sign is present in the left foot. The pulse is 115 and slightly irregular. The pulmonary second sound is practically absent and the normal pauses between the sounds are so greatly shortened as to have a fetal character (embryocardia). There is a slight increase of dulness to the right of the sternum and we are of the opinion that his right heart is greatly engorged and that dilatation and rapid failure are taking place. The respiration is hurried, but regular. Coarse râles can be heard over the left lung, but the right lung is quite dull on percussion. Over the latter lung, about its center and upper portion, can be heard bubbling râles, evidence of beginning resolution. Temperature in the rectum 103.5° F.

Diagnosis.—It was comparatively easy to make a diagnosis of a destructive lesion which involved the leg and arm fibers of the internal capsule posterior to the facial fibers, without, however, producing marked changes in the sensory tract and the extreme hinder part of the posterior limb of the capsule. Since we were unable to test adequately for hemianopsia, it was impossible to be positive about the extent of the injury backward, but we did not believe it to extend far back, since, as it was stated before, there were no marked changes in the integumental sensorium.

Our ability to determine the nature of the lesion, however, was not so exact. Hemorrhages into the brain substance occur more frequently in the young than in the middle-aged, but are far more frequent in old age than any other period of life; it is also true that cerebral hemorrhage occurs not uncommonly in acute infectious disease characterized by high temperatures since the effect of the high temperature and the toxins occasioning the same seems to produce a fatty degeneration of the arterial coats, which, with the high blood-tension, are liable to rupture. Pneumonia being a disease characterized by a low blood-tension, one would hardly expect a hemorrhage from rupture of the arterial wall, and especially does this obtain in this case, since the heart was evidently in a state of acute dilatation and was rapidly failing. The tendency of the blood in pneumonia to develop a very large amount of fibrin, the presence of a failing right heart—so liable of itself to cause clotting—made it quite natural that we should think of a bit of fibrin being driven into one of the cerebral arteries, hence a diagnosis was made of cerebral embolism of one of the smaller cerebral arteries and quite certainly one of the lenticulo-optic arteries. An unfavorable prognosis was given.

The patient died on the following day from heart exhaustion following the acute dilatation. A postmortem examination was made, Drs. Elliott and F. Y. Allan assisting. The liver was found slightly enlarged; spleen practically normal in size. There was evidence of considerable irritation of the mucosa of the intestines; this irritation was undoubtedly the cause of the

tendency to diarrhea which was manifested during the whole course of the boy's sickness. No evidences of typhoidal ulceration were discovered. The right lung was almost completely consolidated, resolution was advancing, however, in such a manner as to indicate that, had not the brain been subjected to embolic insult, recovery would have been quite certain. The left lung was slightly engorged, but contained no pneumonic deposit; there were no pleural adhesions, and but a small quantity of fluid was found in the right pleura. The heart sac contained a slight excess of fluid, and the right heart was sensibly flabby, dilated and thin. Its cavities contained some very firm fibrinous clots which were probably formed during the death agony, if not some time before. They were certainly much more firm than usually found in the hearts of those dying from pneumonia.

After removal of the calvarium the brain and its membranes seemed normal, with the exception that the vessels were slightly injected. On section of the brain an area of softening was found occupying the region of the posterior half of the right lenticular nucleus, and the hinder part of the posterior limb of the internal capsule, involving to a slight extent the optic thalamus. A later search revealed a complete embolism of one of the middle lenticulo-optic arteries. The vessels in other portions of the brain seemed to be perfectly normal and we were unable to find other patches of softening. Without result the spleen and liver were also carefully sectioned in our attempt to determine the question of further embolism.

In examining the literature of cerebral embolism complicating pneumonia, one is struck by its very rare occurrence. This seems peculiar when we take into consideration the great tendency on the part of the blood in pneumonia to develop fibrin.

Da Costa has reported six cases of phlegmasia alba dolens in pneumonia. Anders states that venous thrombosis is seldom seen and embolism of the larger arteries is a rare complication. Also, that cerebral embolism causing aphasia and even hemiplegia has rarely been observed.

Loomis in speaking of the cerebral complications of croupous pneumonia says: "A very rare occurrence is partial paralysis of the muscles which were involved during the convulsive period; such paralysis is often permanent."

Osler says: "A rare complication is embolism of one of the larger arteries. I saw an instance in Montreal of embolism of the femoral artery at the height of pneumonia, which necessitated amputation at the thigh. The patient recovered. Transient aphasia has been met with in a few instances, setting in abruptly with or without hemiplegia."

I have been unable to find other references to the subject in any recent literature, but it is possible that such cases are not as rare as we would infer from this partial examination of the subject.

612 Prospect Street.

AN ATTEMPTED INVESTIGATION OF SOME CHRISTIAN SCIENCE "CURES."

BY LAWRENCE IRWELL, M.A., B.C.L.,
OF BUFFALO, N. Y.

ALTHOUGH epidemics of mental disease which have usually been connected with either religion or finance have been quite numerous in the past, the prevalence of them whether in this country or elsewhere should cause no surprise when we remember that man is a gregarious animal, that the average individual is always ready to believe some part of whatever is suggested to him, and that the world has never been destitute of lunatics and charlatans whose object has been—and is—to pose as leaders and philanthropists. If the external manifestations of the contagious mental disorders of to-day differ from the various forms which history has recorded, the explanation may be easily found in the ever-present evolution of man and of his environment.

"The vast majority of persons of our race," says Francis Galton in his Inquiries into Human Faculty, "have a natural tendency to shrink from the responsibility of standing and acting alone; they exalt the *vox populi*, even when they know it to be the utterance of a mob of nobodies, into the *vox Dei*, and they are willing slaves to tradition, authority and custom. The intellectual deficiencies corresponding to these moral flaws are shown by the rareness of free and original thought, as compared with the frequency and readiness with which men accept the opinions of those in authority as binding on their judgment."

Last September it occurred to me that it might be desirable to investigate some of the remarkable "cures" made by Christian Scientists, of which we have heard so much. Having read a letter in the *Buffalo Express* concerning a "cure" of consumption by Christian Science methods, I wrote to the author of the communication asking if by "consumption" he meant phthisis, and if he would favor me with the name and address of the person who had been "healed." My efforts were in vain. My letter directed to Willard S. Mattox, New York City, was returned to me by the post office. The gentleman could not be found. His address is not in the directory for 1900. The reader can place his own estimate upon the value of the testimony of a man whose residence is so difficult to discover that mail does not reach him.

I was recently given a copy of the *Christian Science Sentinel* of January 31, 1901. This contains three testimonials. One of them is from a lady who asserts that Christian Science enabled her daughter, aged fifteen years, to have her teeth attended to without the dentist causing the child any pain. The mother, whose address is Jacksonville, Fla., has not answered my letter asking for the name of the dentist, so that I have been unable to get any details concerning this remarkable "demonstration."

A little more than a column is taken up with the testimonial of a woman who claims to have been cured of a "cancerous growth" on her breast

and under her arm by studying Science and Health with Key to the Scriptures. The story reads very well, but I am in a position to prove (1) that the carcinoma was removed in a hospital by an eminent surgeon about seven years before the woman became a Christian Scientist, and (2) that the superintendent of the hospital has in his possession a letter from his patient, written two years after the operation, in which no mention is made of any return of the carcinoma.

I refrain from wasting valuable space by giving further details.

The third testimonial is from a woman who asserts (1) that she has been relieved "of a growth," and (2) that her husband has been "healed" of smoking and the liquor habit and of Bright's disease, pronounced by the physicians to be in its worst form?

First, as to the husband, the physician to whom I wrote has informed me that neither he nor his colleague ever found proof that the patient was suffering from nephritis. His condition was due "to congestion superinduced by excessive use of alcoholic liquors." The Christian Scientists, of course, deserve credit for the man's reformation, "which," writes the doctor, "is all the cure that has been effected." The man, having ceased to drink heavily, and having stopped the excessive use of tobacco, has given his kidneys and liver an opportunity of resuming their normal functions. As he never had "Bright's disease," the "healer" cannot be said to have cured that disorder.

Concerning this man's wife and the "growth" of which she was relieved, she gives me to understand that she made the diagnosis herself, and from her very long letter it is quite evident that this "growth" only existed in her imagination. I am told that fermentation in the stomach or intestines frequently produces the feeling of a lump. Mrs. M. does not pretend that any physician ever told her that there was a growth in her stomach. I cannot ask for the publication of this woman's letter, as it would occupy almost a page. "Tumer," "dun," "Piticular troubel," "simtons," "pureafying," "softning," "my husband never wrights," and "very Trouley yours," are samples of what it contains.

On March 20th I visited a "healer," Mrs. L., having previously been informed that she was an educated person who had taken a course in medicine. I soon discovered that this was an error and that she was quite ignorant of the difference between apoplexy and epilepsy. She professed to have cured the former, which is, of course, a symptom rather than a disease. It must be remembered that I am not a physician, but her description of the case suggested to my mind an ordinary epileptic fit, such as I have often seen on the street. The sufferer recovers in a short time without medical aid, and, in due course, repeats the performance. When I asked the lady if she did not mean epilepsy, not apoplexy, she answered that the "patient" never had another fit, but that she had not studied "physics!" In reply to my enquiry "How did you make your diagnosis?" Mrs. L. said, "I cannot explain; we do not use the word diagnosis." The thought came to me that it must be "apoplexy." Answering a further query, she informed me that she had never before witnessed a case of apoplectic seizure.

I am well aware, I need hardly say, that no scientific man ever wastes his time in arguing with a person who suffers from delusions. But, as this was my first (and probably my last) interview with this woman, it seemed desirable that I should attempt to ascertain whether the fallacies with which her mind was burdened could be removed by argument or not. When, therefore, she made the interesting assertion that the heredity of consumption was due to one generation after another believing that the disease was transmitted, I flatly contradicted her and explained in non-technical language the history of the Koch bacillus, the evidence of the heredity of the phthisical diathesis, and the impossibility of a micro-organic disease being hereditary in the proper sense of the term. I made no impression whatever, for her last word upon the subject was, "The doctors always call consumption a hereditary disease." This expression was not sufficient to convince me that the woman was the victim of delusions, nor was I convinced when she told me that, having read some of Darwin's works, she was sure he was wrong in his belief that "life came from dead matter." She was unable to remember the name of any single book written by the great biologist.

Replying to my question "Do you assert that there is no such thing as disease?" the lady talked for about fifteen minutes upon the Old Testament and the New without giving me any "information," except that the Old Testament was originally written in Greek! Upon my interrupting her dissertation, which had nothing to do with my query, she assured me that she could not answer unless I permitted her to begin at the beginning. As my time has some value, I dropped the subject and asked, "Can one become a 'healer' in twelve days by attending the Boston Christian Science School?" I understood the answer to be in the affirmative, provided the student does not want to "treat obstetrical cases," but further conversation led me to believe that my informant meant gynecological cases. I then asked the following questions:

"Mrs. L., will Christian Science eventually be able to do away with death?"

"That will be the last thing for us to overcome."

"When a healer is called to treat a sick person, is the first order 'dismiss your physician?'"

"Yes; when the patient recovers, the doctor would claim the credit. Besides, his methods interfere with our spiritual cure."

I am afraid that I have been unable to remember the exact words of the answer to the last question.

Up to this point, with the exception named, I had ignored every absurdity uttered by this woman, and had asked a further question as soon as she ceased answering the previous one. As I was about to leave, she volunteered the statement that prior to becoming a "scientist" she had been unsuccessfully operated upon by a surgeon twenty-nine times in the course of two years, chloroform having been given to her upon each occasion! This seemed to be strong evidence of delusion. I now changed my method, with the object of trying to find out whether Mrs. L. was to be regarded as a lunatic or as a charlatan. I am bound to confess, however, that delusions alone do not, in my opinion, prove insanity. We have no absolute test of insanity, because there is no distinct and dividing line where sanity ends and insanity begins.

Having defined the word "operation," I told Mrs. L. that 29 operations in two years meant an average of more than one operation per month. She gave me the name of the "operator," after a good deal of pressure, and said that he not only operated, but also administered the anesthetic! No other person was ever present, she said, except "a lady" (nurse, I suppose), whose name she refused to divulge. Having had a legal education, I am not of a credulous turn of mind and I never believed one word of this statement. Nevertheless, I have investigated it very carefully.

This "healer" tells the story of twenty-nine unsuccessful operations to her "patients," and then informs them that she was eventually cured of stricture of the rectum by Christian Science. The tale is devoid of foundation. No surgeon habitually performs operations which need the use of an anesthetic without the presence of a second medical man. No surgeon operates once a month for two years. Moreover, the late Dr. Q., whose name I *dragged* from this woman, was a very skilful and much respected physician, not a surgeon, who never made a practice of operating at all. His son informs me that the whole story is untrue, as far as operations are concerned. The late Dr. Q. may have *treated* Mrs. L. for stricture of the rectum by gradual dilatation—or otherwise.

As I have already explained, I am not a physician, much less an alienist; outside a limited amount of legal experience, I have had little opportunity of studying mental pathology, but it is fair to say that I have read, with the greatest care, the works of Clouston, Maudsley, Spitzka, Griesinger, Mercier, Hammond and others. In my opinion, formed in the course of one interview of an hour's duration, Mrs. L. believes all she relates and is not an impostor. I must add that further conversation with her and investigation of her antecedents might alter my opinion.

At one of the hearings at Albany upon the Bell Bill regulating the science of treating disease by uneducated persons, a speech was made by a Buffalo "healer" named George H. Kinter. I was not present, and consequently do not know of my own knowledge what he told the Committee, but according to the *Buffalo Express* of February 14th last, on the subject of diagnosis, Mr. Kinter said he had been a reader for twelve years and had not yet been accused of killing anyone or making a mistaken diagnosis."

Within the past three years this same Kinter has been charged with manslaughter in neglecting to summon medical aid to a child who was suffering from pneumonia. The child was not Kinter's; its parents, poor dupes, were Christian Scientists, and he was attempting to "heal" it by his absurd methods. It is true that the Grand Jury did not indict him, but that does not affect the point under discussion. If he should see this article, he will, of course, deny the accuracy of the report in the *Express*.

The *Christian Science Journal* for January last contains fourteen testimonials from persons who profess to have been "healed," and who give their names and addresses. A suitable letter was sent to thirteen of these, requesting details, and a stamped envelope was inclosed for an answer in every instance. Two persons have not replied, and two of my communications have been returned by the post office. Of the remaining nine "scientists" who have answered, only four can be said to write fairly accurate English. Three of the others are utterly illiterate. In order to demonstrate to some extent the accuracy of this assertion, I give here the testimonial given in the *Christian Science Journal* by Mrs. McC——, of M——, and her letter to me. The former was, no doubt, written by a "healer," and afterward signed by the dupe.

Testimonial from Mrs. E. McC. in Christian Science Journal.

"When only six years of age I was taken with epilepsy. We sought first one doctor, then another, for help, but there was none. I suffered not only from the fits, but other diseases took hold of me. For weeks at a time I would be perfectly helpless with rheumatism. Add to all this two operations which brought no relief, and does any one wonder that for me life seemed a mockery? One day about four years ago my husband stopped at neighbor's and found them rejoicing over the recovery of their daughter, who had been deaf for fourteen years, and now had received her hearing through Christian Science. Upon learning what had healed her my husband hastened home with the good news that he had at last found something that would heal me. Full of hope that it would be even as he said, we went to the healer who had brought back the girl's hearing. In two weeks' time I was healed and I am well and strong, able to do any amount of work, to the amazement of my friends who knew of my condition. I am now a member of the Mother Church, and my heart overflows with gratitude to Mrs. Eddy, who has taught us how to know God and be free. I am also grateful to my healer who was instrumental in bringing me health."

Letter from Mrs. E. McC. to L. Irwell, Feb. 8, 1901.

"Dear Frend I Reseaved your Kind and wilcom leter which gave me Plesher to hear that thare is more lucking for this Blesed truth I Had the Clame for 22 years Ever Since I was 6 years Ould Thare is Noting in posiable for God be fore I Came to C. S. I lucked like a Shadow on the wal Now I way 175 Pounds and I can Due all kinds ove work and I go to C. S. meatings no mater How the weder may be we most take ony C. S. with a Good oniest Hart I Remane your Sister in truth

"Mrs. E.——— McC.———,
"M..... W———

"Hoping to Hear from [you] soon"

I have frequently been told of the high order of intelligence of the supporters of Eddyism, but my experience leads me to the conclusion that most Christian Scientists are extremely ignorant people. What else is to be expected when the woman Eddy herself writes of "the emptiness of knowledge, the nothingness of matter and its imaginary laws. . . "? (This quotation is taken from J. M. Buckley's "Faith-Healing," page 246.)

Testimonial No. 14 appeared to me unworthy of serious investigation. It is signed by a woman, Mrs. Annie S———, wife of the master (*i.e.*, the Head) of one of the colleges of the English University of Cambridge, who relates that her husband, a disbeliever in Eddyism, was assisted in getting rid of a cough by his spouse's "scientific" methods, and did not find it necessary to use some lozenges which he had bought.

Mrs. J. K. of E—— relates how she was healed of catarrh in the head and "had a tumor disappear also." Unfortunately, she was unwilling to tell how she knew that she had catarrh, although I requested her to do so in three different letters. She assumed that I was suffering from some disorder similar to her's, and advised me to visit a Buffalo "healer," whose *"adress"* she gave. Having implored me to be *"obident,"* she concluded with, "Read Mark 5-25 & 26 also John, 4-12 I am yours sincerely in Truth and Love." It seems a pity that I have been unable to induce this woman to favor me with the name of the physician who treated her for catarrh.

Mr. A. L. F. of S—— got a hot cinder into his eye. He testifies to the cure of this serious affliction by the day following the accident. But his own witness, who is not a "scientist," writes me that the eye "was all well in a couple of days." Mr. F's words in the *Christian Science Journal* are, "By the next morning all trace of the eye having been burned at all had disappeared." Even if his statements were correct, nothing remarkable has occurred. He evidently forgot to "coach" his witness, from whom I have now received a second letter, which reads as follows: "I read 'Science & Health' during the period Mr. Fink hurt his eye—the book may seem reasonable to some persons, but to me it does not—especially in this enlightened age—as I told you before, I have not the least faith in the work, and further I do not care to discuss the subject—and I wish to say that I do not want my name used as a testimonial in Mr. Fink's incident. Strong will power, in my mind, has a great deal more to do with a case like Mr. Fink's than anything else—I have seen *too* many cases result fatal in this city to have anything to do with Christian Science."

Mr. G. E. C. of C—— appears to have had some curious experiences. He has "had two cases of broken toes and two of broken fingers and thumb healed without even a bandage, court plaster, or bathing of wounds, one a very bad compound fracture." He did his "own work on these cases. The battle was the Lord's—He delivered him." Nor is this all. In a street-car collision he was thrown "fifteen feet" . . . but "escaped with only a small bruise on one finger." . . "The claim of shock seemed to come up afterward, and was met and mastered by a sister scientist here. I could write all day of His loving kindness, and of His mercy which endureth forever."

Mr. C.'s reply to my first letter was dated at C——, but with neither street nor number. He informed me that his "use of the word compound was different from the doctors," and that his "thumb was broken at first joint—set type with it every day until it was completely healed, also did some work with other finger, working eight hours a day in both cases." His final sentence is "Are you a Christian Scientist?"

As I considered this curious epistle most unsatisfactorily, I again wrote requesting the gentleman to kindly tell me how he knew that his thumb was broken at the first joint, and in what sense he used the word "compound." I ended my letter by saying "I have no interest in this matter beyond a desire to ascertain the truth."

Within a few days my communication was returned to me with the last sentence underlined, and the following words written upon the back of it, a postscript upon a separate piece of paper being enclosed. This masterpiece is worth printing.

"There is but one TRUTH. You can find it in *Science and Health* and the Bible—by reading the two combined—as to how I *knew* my thumb was broken—I knew it the same as you would know some portion of your body was injured—that's the best way I can explain it to you. I also by the same evidence know when it was healed—my address is No. 9 West 4th St.—am engaged in newspaper work—have no time for answering letters for mere gratification of *curiosity* but am willing to help a brother in need of help—the work I am in really takes up too much of my time—which I should prefer to devote to other things. In haste, etc.

"P. S.—As to the question of knowing—there are a large number of people who *know* some few things besides the men of letters—even little children are sometimes smarter than their parents—and an animal *knows* when he's hurt."

Mr. J. A. K. relates that he fell "a distance of about forty feet on a pile of broken rock . . . but broken bones were skilfully set" by a surgeon. For eight years he "continued under the care of different doctors of *materia medica,* and tried almost every so-called remedy suggested for rheumatism in one of its worst forms, sometimes having relief for a few days." He admits having been a "tippler," and relates that within a month of beginning to read *Science & Health* he was healed of rheumatism and "tippling."

On March 1st, I wrote to Mr. K., asking him to kindly favor me with the names and addresses of some of the physicians who had treated him. To this request, he sent me the following answer, which reached me on March 14th.

"Your letter of Inquiry at hand as to my sending you the names of the different Doctors who treated me for Rheumatism, I cannot do so without their consent although There are one or Two of them Residing in Scranton. I have not as yet been able to see them, but will at the earliest possible time. and then if they are willing will do as you wish. One of these *Phisicians* is also the one who attended me at the time of the *acident* I can furnish you the names of some of my acquaintances. who are well acquainted with the facts as stated in my testimonial. I have had so many proofs of the Potency of Truth in overcoming error of different sorts in my family for more than four years. That I do not hesitate in offering what little I have to any honest Inquirer. I know that the Teaching of Our Text Book S. & H. with Key to the Scriptures By Mary Baker Eddy are True The Truth that makes free. Will *comunicate* with you again at my earliest convenience and furnish you what you desire if *permited.*"

Having heard nothing further, on March 26th I again wrote to Mr. K. reminding him that my request for the names of his former medical attendants had not been complied with. Upon April 14th, I received a short note from him in which he gives, not the names of the physicians under whose care he had been before becoming a "scientist," but the names of some persons who are said to have known of his "healing!" I never asked him for these names, which are worthless for my purpose, and all I ever requested him to do was to send me the names of his former physicians. I have no hesitation in saying that this man's letters show that his intelligence is limited. (Since the completion of this paper, a further letter, characteristic of Mr. K., has reached me.)

Mrs. A. L. J. claims to have suffered from "stricture of the intestines in two places." She relates that she "was sentenced to the uncertainty of an operation or to sure death without it, by different specalists in Kansas City and by one of the best physicians of this place" (Joplin, Mo.). It is impossible to rely upon Mrs. J.'s statements, since Dr. W. has sent me a full account of her case, and has shown very clearly that he cured her of stricture of the rectum before she became an Eddyite. The treatment lasted from March 12th to June 12, 1900. It is true that Dr. W. did tell her that if treatment failed, an operation might be necessary. Mrs. J. is not an educated woman, and her letter to me, which covers eight pages, written on both sides, is largely devoted to explaining the methods by which I could become a Christian Scientist, instead of giving details of her "cure." Her epistle ends with "I am not looking for patients as I am not a *practioner.*" No useful purpose could be served by giving further particulars.

Mr. C. G. M. "suffered for twenty years with eczema in its worst form." He "tried everything in the line of patent medicines, besides consulting the best physicians," but was told that he would "never be healed." He was "healed" by Christian Science in six months. His wife was "healed" of rheumatism, and his little daughter of inflammation of the lungs in a few hours!" Mr. M. is a professional "healer." His answer is in the handwriting of a woman, and the expressions used are those of a woman. The signature is in the same writing as the body of the letter. Among many curiosities, I notice the following: "If I thought you doubted the truthfulness of my statements I would not answer them. But I think you must be to (*sic*) much of a gentleman for that." Being anxious to investigate these "cures," I sent a second letter repeating my questions. This letter was registered. It appears that Mr. M. has filed at his post office a form of authority for another "healer" to receive his mail. The answer to my second communication gives me no additional knowledge, as the writer refuses to disclose the names of his former doctors, for the bizarre reason that it "might be unpleasant to them," and he ends with an intimation that he must cease corresponding with me. There are some suspicious circumstances connected with this case, in addition to the facts that the man did not sign for his own registered mail, and that his letters are apparently written and signed by a woman. My three specific questions, repeated twice, are ignored.

M. S. R. of F. W. is a child "not nine years old yet," whose testimonial in the *Christian Science Journal* is remarkably well expressed. She says that she had "a belief of scarlet fever," and that her mamma treated her "with Christian Science." She was in bed "only two days," and she felt very much better after her mother had read *Science & Health* to her. The child's testimonial contains the following words: "I have treated papa several times and healed him." Being naturally curious to see a specimen of this prodigy's handwriting, I wrote asking her how long she was home from school with scarlet fever, and of what disorders she had healed her father. After much delay, I received a letter from the child's mother, who tells me that she is the first reader at a Christian Scientist Church, and that "it is 7½ years since the children have had a drop of medicine." It is quite evident that this lady regards me as a lunatic, for she writes that her

infant "began treating when she a little over two years old!" No sane person would believe for one moment that any child of two and one-half years could understand that the word "treat"—even by Christian Science—means. Mr. R. has, it seems, "been healed of many little beliefs by Mary, headaches, sore throats, etc." As these trivial complaints disappear without treatment when the sufferer is an ordinary person, it is very easy to understand in what sense this remarkable infant "healed" her father. The mother says, "We called an M.D. in at the time of the scarlet fever. . . . We were at home for fourteen days, tho' Mary was really only confined to bed from Sunday afternoon till Tuesday lunch." I need hardly say that it has been a great source of satisfaction to me to learn that at least one Christian Scientist father had sufficient intelligence to summon a physician when his child was attacked by a "belief" of scarlet fever.

For the purpose of enabling the readers of this article to form their own opinion of Mrs. A. J. R., I give here my second letter to her and her extraordinary second letter—to call it a "reply" would be an unwarrantable use of that word.

Letter from L. Irwell to Mrs. R., Buffalo, N. Y., April 3, 1901.

"Answering your favor of 29th March, may I ask you to kindly explain to me what you mean when you say that your daughter Mary 'began treating when she was a little over two years old? Do you mean that an infant of two years of age can understand what the word 'treatment,' either in the Christian Science sense, or in any other sense, means? Have you any objection to giving me the name of the physician who visited your children when one of them had scarlet fever?

"Thanking you, in anticipation, for your reply, I am, etc."

Letter from Mrs. R. to L. Irwell, April 5, 1901.

"Your letter rece'd. I answered your last letter in good faith, thinking you were either a Christian Scientist, or intended to be one, Jesus took a little child and set it in the midst of them. I thanked God that these things had been hidden from the wise, and prudent and revealed unto *babes,* and now my turn to ask questions comes —why are [you] asking questions of me. Do you desire this Pearl of great price (Christian Science) If you do, I would refer you to Mrs. Anna V. C. Leavitt, who is First Reader in First Church of Christ Scientist of your city. I am not personally acquainted with any of the Scientists in Buffalo. But I can assure you that all strangers are welcome to the Reading Rooms and to all services. Would advise you to go to a Wed. P.M. Testimonial Meeting. God will lead you and guide you. If I understood the motive of your questions I would gladly help you out. I am indeed thankful that I am trying to be a C. S.

"(Mrs.) A. J. R.

"Read the C. S. Journal for April.—J. H. S. R."

The last testimonial is from Miss K. P. of M——. This lady had "a severe claim of neuralgia," and although tempted to use "hot water to alleviate the suffering," refrained from doing so when she remembered that she "needed no help, but His, no water, but the pure invigorating water of Life . . . which cleanses all impurities." This lady's letter to me is merely a copy of her testimonial in different language. As I occasionally suffer from neuralgia, and as it goes away in due course without any treatment whatever, I cannot avoid the conclusion that Miss P.'s "cure" does not demonstrate the efficacy of Christian Science methods, as far as neuralgia is concerned.

Are Christian Scientists insane? I cannot pretend to say whether any class of persons is sane or otherwise, for, in spite of the opinion of alienists of repute, facts which might prove the insanity of one individual would not, in my estimation, prove the insanity of another. If I insisted that man is not an animal and that a whale is a fish, those delusions would certainly prove insanity upon my part; but perfectly sane women —perhaps men also—can be found who cannot be convinced that both assertions are false. The general education of some of these persons may be fairly good, but they are, nevertheless, unable to appreciate technical definitions. Again, I can produce a sane lawyer who insists that phrenology and palmistry are true, notwithstanding every possible effort to prove to him that these absurdities are mere "fakes." Such cases could be cited *ad infinitim.* In a paper upon the "Relation Between Phthisis and Insanity," read before the American Public Health Association in 1896, I said: "I frankly admit that, in my humble opinion, no absurdity of belief nor extravagance in conduct or behavior is alone conclusive evidence of insanity." To that view I still adhere.

It is not practicable to construct a complete and accurate definition of the term "insanity." The late Lord Justice Blackburn, an eminent English lawyer (and judge), when a witness before a committee of the House of Commons, said "I have read every definition which I could meet with and never was satisfied with any of them, and have endeavored to make one satisfactory to myself. I verily believe that it is not in human power to do it." The same opinion is held by Drs. Bucknill and Hack Tuke in their Manual of Psychological Medicine.

Taking the ground that delusions which prove the insanity of one man do not necessarily demonstrate insanity upon the part of another, I venture to assert that the notorious hypothetical question, which generally consists of a speech with a note of interrogation at the end of it, and which is so much in evidence in law courts when will cases and murder cases are on trial, is absolutely valueless—and often ridiculous. Nor is this all. I contend that delusions *alone* do not prove insanity; and that contention is supported by the

opinion of Dr. Clouston—an alienist of quite the first rank. The following excerpt is taken from the article upon "Insanity" in *Chamber's Encyclopedia,* but the same facts may be found in Dr. Clouston's Clinical Lectures on Mental Disease.

"There is no exact line of demarcation between insanity and sanity any more than there is between light and darkness. There is an undefined borderland through which most cases of insanity pass, between technical and legal sanity and insanity. . . . There is or can be no absolute test of insanity—or of sanity, for that matter. Sanity is best proved by normal self-control, and insanity by the loss of it from disease. The presence of one or more insane delusions was at one time the legal test, but it is not a true or scientific one. The "knowledge of right and wrong" was at one time a legal test of responsibility, in other words, of insanity, by the law, but it has long been given up. Half the lunatics know right from wrong in some degree or other."

Dr. Austin Flint made what I believe was his *début* as an alienist in a law court early this year in the Brush will contest. On cross-examination, the following questions and answers were in evidence:

"Do you believe that if a person was run over by a street car and had a limb cut off, and was bleeding to death, that that person could live if he or she refused the attendance of a surgeon?"

"Oh, no."

"Would such belief be an insane delusion?"

"Not if the person could be convinced that it was necessary to have a surgeon."

Had Dr. Flint made himself familiar with any important work upon mental pathology, he would have learned that "delusion" means a steadfast belief in some untrue idea which, as a rule, personally concerns the victim, and of the falsity of which he cannot be persuaded by any amount of evidence, demonstration, the experience of his own senses, or the declaration of others. The word "delusion" is not applicable to a fallacy which can be dispelled by argument. Dr. Flint's so-called "expert testimony" induced Dr. D. A. Gorton to write a long letter to the *New York Times* and to the *Medical Times,* the object of which was to persuade his readers that the "distinction between persons subject to delusions is that the sane person is amenable to reason and can be argued out of his delusions; the insane person is one in whom delusions are fixed, and who cannot be persuaded of their irrational or delusional character." Apparently Dr. Gorton has forgotten that we have such words as "illusion" and "hallucination." The distinction between these terms is well explained in the Century Dictionary under "delusion"; and this word will have lost its value if it is to be used synonymously with any other word. The amateur alienist, even when eminent in some medical specialty outside of psychiatry, always demonstrates the accuracy as the proverb that "a little knowledge is a dangerous thing."

Some Christian Science "healers" are, I feel sure, very sane—and very shrewd—money-makers. Many of their dupes are merely extremely ignorant persons who are easily imposed upon, for, while everybody boasts of the "excellence" of American education, that "excellence," as it is humorously called, only means ability to read and write. Ability to spell is rapidly going out of fashion, and many school teachers still belong to the "I done" and "he seen" variety.

Of the "scientists" with whom I have talked, some are clearly on the borderland of insanity, and none can be properly described as "educated" in the correct sense of the term; but perhaps my definition of this word might not meet with universal approval. However this may be, the following paragraphs telegraphed to the *New York World* by Mrs. Eddy on February 22d, and published in the *Christian Science Sentinel* of February 28th, are well worthy of reproduction.

"The supposition that we can correct insanity by the use of drugs is in itself a species of insanity. A drug cannot of itself go to the brain or affect cerebral conditions in any manner whatever. Drugs cannot remove inflammation, restore disordered functions, nor destroy disease without the aid of mind.

"Neither life nor death, health nor disease, can be produced on a corpse whence mind has departed. This self-evident fact is proof that mind is the cause of all effect made manifest through so-called matter. The general craze is that matter masters mind; the specific insanity is that brain, matter, is insane."

Comment would be out of place.

This same Mrs. Eddy has written a Key to the Scriptures, and almost everybody will gladly admit the value of a genuine "key," especially to the New Testament. Perhaps I may be permitted to say that I have found Huxley's Science and Christian Tradition, aided by my knowledge of Greek, an extremely valuable "key"; but the great naturalist's work would not be understood by any resident in the outskirts of Bedlam. While all Bible students whose intellects are normal would appreciate a "key" written by the possessor of a high-class education, they must necessarily look with disgust upon any such work produced by a tyro. That the woman Eddy is grossly ignorant is proved beyond peradventure by the following excerpt from Christian Science *versus* Pantheism, a pamphlet of which the high priest of the lastest form of quackery is the reputed author: "*Pan* is a Greek prefix, but it might stand, in the term Pantheism, for the mythological deity of that name."

A Pan-American Exhibition is now being held in this city of Buffalo. If Christian Scientists really believe that the word "Pantheism" is in some way connected with the god Pan, they may also suppose that the exhibition in question is a tribute to this same god. If there are "scientists" who take this view, I hope they will not be deterred by it from visiting the exhibition, for one day there would do much toward educating anybody—even an Eddyite.

The medical profession is united in the belief that the Koch bacillus only attacks those who have either inherited or acquired a special susceptibility towards tuberculosis, due, in all probability, to a lowered vitality of the tissues. Similarly, epidemic insanity only attacks those individuals who have inherited or have acquired the insane predisposition; and just as prophylactic measures, such as a highly albuminous diet, may aid the possessor of the phthisical diathesis in resisting the inroads of tubercle bacilli, so may suitable educational methods assist the individual who has inherited or has acquired a tendency towards insanity in maintaining a moderately sound brain. But it must be admitted that the necessary educational measures are generally objectional to the sufferer, and are not forced upon him without serious difficulty. Men and women whose minds are neuropsychopathic are prone to seek the society of others having similar peculiarities, with whom they have a sympathy of feelings and thoughts. Wild flights of imagination and empty idealistic aspirations, such as they themselves indulge in, excite their admiration, while sober reflection and hard work are repugnant to them. The best tonic for those unfortunates who are predisposed to insanity is the investigation of the laws of Nature; and if our boys and girls can be induced to study natural science and to cultivate whatever powers of observation they possess, the mental epidemics of the future will be few, for the disease will not have a fertile soil upon which to propagate. I have little hope, however, that this prophylactic will be utilized to any great extent, because I have good ground for believing that the zoölogy and botany of the average high school are of the pre-Darwinian type, and the mere classification of animals and plants neither appeals to the reasoning powers nor satisfies legitimate curiosity.

Foolish as extravagances of the character of Eddyism unquestionably are, they should be treated with a certain amount of indulgence, for they are often the least harmful direction which the insane diathesis can take. If it were not for them, many persons who are now upon the borderland of insanity would be actual lunatics. An absurdity like Christian Science is really "a sort of masked madness" (Maudsley)—it is the safety-valve which saves numbers of sufferers from the asylum.

344 Hudson street.

A NASAL CONDITION AFFECTING THE OCULAR MUSCLES.*

BY HEBER NELSON HOOPLE, M.D.,

OF NEW YORK, BOROUGH OF BROOKLYN;

SURGEON, EYE DEPARTMENT, WILLIAMSBURG HOSPITAL; CLINICAL ASSISTANT, NEW YORK EYE AND EAR INFIRMARY.

THE thesis I wish to advance is that faulty pressure within the nose can cause asthenopia of both the ciliary and external ocular muscles. To be more specific, I wish to show that mere mechanical pressure in a limited area of the nose, called by Mackenzie[1] the reflex area, can cause muscular asthenopia. By muscular asthenopia I mean impairment of the efficiency of the ocular muscles in the performance of their ordinary function.

The faulty pressure to which I refer is confined chiefly to the middle turbinate, but it may extend to the ethmoid cells, especially in cases of great hypertrophy of the middle turbinate. But I wish especially to point out that, without hypertrophy, where the middle turbinate is tightly compressed against the septum, or the septum is deflected against the middle turbinate, or a spur from the septum digs into the middle turbinate, or the middle turbinate is crowded by a deflected septum against the ethmoid cells, in all these instances we may have, and are almost certain to have sooner or later, muscular asthenopia

As a corollary to this claim, I would say that all cases, wherein muscular asthenopia is present as a result of the conditions just now enumerated, are equally likely to give the history of nasal headache, hemicrania, or migraine. As the pressure is not absolutely certain to produce the muscular disturbance, so it is not absolutely certain to cause the headaches; but, in about the same ratio as the one form of disturbance is produced, will the other also be brought about. It is not a part of my thesis to demonstrate the corollary; but, as the corollary is of great value to me, I wish to make use of it, and, fortunately for me, it has already been demonstrated.

Glasgow[2], Allen[3], Roe[4], Woolen[5], Pynchon[6], Loeb[7], Snow and others[2-4], who have investigated this offence of the middle turbinate, have made it evident by adequate inductive proof that the pressure and the headaches are correlates. They removed the pressure and, presto! the headaches disappeared—*sublata causa tollitur effectus.*

Patients suffering from such headaches seek the oculist in search of eye defects to account for them; they do not seek the rhinologist, because they have no symptoms pointing to a causative condition in the nose. It is in the study of just this class of cases that I have found the more or less constant presence of muscular asthenopia.

To prove my thesis one-half of the evidence is already in. I shall briefly summarize this before proceeding with other witnesses. The half that I refer to concerns the ciliary muscle; and as to this the following observers have reported, namely, Maxwell[8], Clark[9], Cheatham[10], Bettmann,[11] Hamilton[12], Gradle[13], Wood[14], Berger[15], Ziem[16], and Nieden[17]. They have all found cases of asthenopia whose cause was some form of local irritation in the nose on removal of which the asthenopia disappeared. Coincidence is not proof, but it is evidence. The evidence is cumulative. It has its value in support of my thesis so far as the local cause had its location in the specified area—the irritable or reflex area of the nose.

There is other evidence of the same character that is still more available for my purpose, be-

* Read by title before the seventh annual meeting of the American Laryngological, Rhinological and Otological Society, May 23, 1901.

cause it inculpates the external ocular muscles as well as the ciliary. It is furnished by De Schweinitz[18], Ziem[19], and Berger and Trymann[20].

In regard to the first group of witnesses, I will especially consider Maxwell's cases, some of whom were treated for nasal troubles as well as for asthenopia. It was noted that their asthenopia disappeared as soon as the nasal trouble was cured; and then the patients of their own accord threw aside their glasses without inconvenience. This would probably happen oftener in Maxwell's practice than it could in America. He very likely had to deal with but one kind of asthenopia, called by Gradle *normal* asthenopia, to distinguish it from another type which he called *excessive*. The former could tolerate without discomfort a small error of refraction. Seabrook[21], recognizing the same distinction, has employed for the second class of Gradle the well-chosen term *neurasthenopia*.

I purpose to avoid this second class and to present histories herewith of those alone that I regard as conforming to the normal type

Cases II. and IV. are given in the MEDICAL NEWS for April 13, 1901. Cases V. to VIII. are as follows:

Case V.—E—. E—, fifteen years old, schoolgirl; medium height, broad frame, plump, fat and heavy, well developed and well nourished. Rides a wheel. Appetite good. Menses regular; normal type. Yet she has frequent browaches, brought on by constant use of the eyes in study. Occipital headaches occasional, used to be more frequent. Some intolerance of light and excess of lacrimation on steady use of the eyes.

V. o. u. = $^{10}/_{10}$. Javal .50 c. a. 90°, with the rule

p. a. Ex. 4°, Ab 26°, Ad 31°. p. p. of Acc., o. d. 12 cm., o. s. 11 cm.

p. r. Es. 3°, Ab 4½°, Ad 17°. p. p. of Convg. 10 cm.

The left middle turbinate is tightly compressed against the septum. Instituted cold sponge baths every morning on rising. After two weeks at

p. a. Ex. 4°, Ab 10°, Ad 36°. p. p. of Acc. 10 cm.

p. r. Es. ½°, Ab 6°, Ad 18°. p. p. of Convg. 5 cm.

Divulsed the left middle turbinate vigorously and the right lightly and then tested again.

At p. a. Es. 6°, Ab 15°, Ad 29°. p. p. of Acc. o. d. 14 cm., o s. 16 cm.

p. r. Es. ½°, Ab 6½°, Ad 13°. p. p. of Convg. 7 cm.

Two days later the patient reports having slept soundly without the usual restlessness and tossing. She has had no headaches since the divulsion, though she has used her eyes constantly; there is no photophobia, nor excess of lacrimation.

At p. a. Eq., Ab 14°, Ad 41°. p. p. of Acc., o. u., 10 cm.

p. r. Es. 2°, Ab 6°, Ad 18°. p. p. of Convg. 7 cm.

This case is given solely to show the effect on the muscles, first, of the faulty compression, second, of the mechanical disturbance, third, of rest for forty-eight hours after the latter.

Case VI.—G—. P—, well-developed schoolgirl of fifteen years; 5 ft. 6 inches in height, weighs 120 pounds. Good appetite. Good general health. Menses regular. Sleeps enough and is rested by it; nevertheless, for the last three years she has been restless and has tossed in her sleep a good deal. This has been more marked during the last six months. She complains of blurring in reading, of twitching of the left eyelids and of headaches after prolonged study or writing.

V. o. u. = $^{9}/_{10}$. Javal o. d. 1.50 c. a. 90°, o. s. 1.00 c. a. 90°, with the rule. Exophoria ½°, Ab 5½°, Ad 15°. No hyperphoria. Acc. weak. Ordered + .50 c. a. 90°, o. u. to be worn till vacation. They were worn but vision was not clear with them, though better than without them.

Three and one-half months later, examined her eyes again under atropine. V. o. u. = $^{2}/_{10}$. Javal o. d. 1.50 c. a. 90°, o. s. 1.00 c. a. 90°. Found also H. o. u. 1.00 D.

Ordered, o. d. + .25 s ⌒ + 1.00 c. a. 90°.
o. s. + .25 s ⌒ + .50 c. a. 90°.

Three months later she reported relief of all the symptoms for which the glasses were given. Eleven months after her first visit she had a slight attack of grip. Six weeks later she came again with symptoms which she had had for more than a week. The left eye was heavy; the lid drooped; the left eye and brow ached; she felt as if she must keep that eye shut; both eyes were intolerant of light. Occipital pain occasionally. Tests with and without her correction both gave the same findings: Ex. ½°, Ab 6°, Ad 19°. At p. a.; Ex 18°.

The right middle turbinate touched the septum superiorly; the left was closely compressed against the septum throughout its entire surface. The patient has had a cough both this winter and last—a dry, hacking, ineffectual cough. The letters dance before her eyes in reading and her eyes are worse than they were a year ago when she first consulted me.

Two weeks later: She now complains of severe occipital pains. Cannot read longer than twenty minutes without troublesome dancing of the letters. Soon thereafter headaches set in.

In acc. at 10″, Ex. 18°, Ab 30°, Ad 30°.

At 20′, Ex. ½°, Ab 6½°, Ad 10°.

Owing to the narrowness and compressed character of the left naris, the left middle turbinate was removed as a whole.

Two days later: Her eyelids do not droop, although she continues to have pain over the left eye and in the occiput. But there is no blurring with her glasses, although the p.p. of Acc., o.d. is 25 cm., and o. s. 22 cm. Her p. p. of convg, however, is 5 cm.

In Acc., Ex. 18°, Ab 20°, Ad 28°.

At 20′, Eq., Ab 6½°, Ad 16°.

Eleven days later. She accommodates for No. I. J. at 12 cm. Ex. 6° to 20°, Ab 28°, Ad 23°.

At 20′, Ex. ½°, Ab 7°, Ad 17°. Rel. Acc. Neg. 4 D. Pos. 2.5°.

No further headache, blurring, nor intolerance of light. Holds both eyes wide open. Sleeps better. Has no more backache, as she had before at times.

One month later: She now complains that although the eyes have felt all right, yet each night on going to bed she has a face-ache on the left side. I find a remnant of the tubinate left in, closely pressed against the septum, and remove it.

Two weeks later: Patient now reports that she has been free from the face-ache ever since last piece was removed. No other symptoms.

p. a. Ex. 6°-16°, Ab 30°, Ad 46°. p. p. of Acc. 10 cm., o. u.

p. r. Eq., Ab 8½°, Ad 35°. p. p. of Convg. 6 cm.

With the aid of the weighted convergence stimulus she carries 42° of adductive prisms to 20′ and raises it to 65°.

The salient points in this case are these: The patient is a strong, healthy girl; has had restless sleep for three years; has symptoms of accommodative asthenopia and occipital headaches. There is exophoria; there is also weak abduction and weak convergence. She is given her correction for hyperopic astigmatism which she wears for nine months and then has the grip. Three months after that the left middle tubinate is removed and a month later a pressing remnant of the same. Since then all her symptoms are gone. She has now restful sleep. She reads continuously without discomfort. Her cough is gone. Accommodation and convergence are now good. The muscles all give strong tests and good balance except at the near point, where there is merely a lessened exophoria. The touching right turbinate is left severely alone, because there are no symptoms.

Case VII.—Miss M— C— D—, twenty-three years of age. In good health. Puts on flesh and maintains good nutrition. She is wretched with very severe headaches, throbbing at times, which are becoming more severe and frequent. She has had them for many years. They extend from the right side of her forehead to the temple, vertex and occiput. Sleep often relieves them; but sometimes she cannot sleep on account of them, they disturb her whole night and she rises with them the next morning. Her menses are regular, but painful. Her eyes burn. She has conjunctivitis. She has had styes. There is no special tenderness of the trochlear or supra-orbital nerves. V = $^{10}/_{10}$ with each eye. There is the merest trace of vertical astigmatism. She has Hm.+.50s. Ophthalmoscope measures ×1.50s, o. u. She reads No. I. J. comfortably with or without +.75s.

At p.a. Ex. 9°. At 20′, Ex. 2°, Ab 4½°, Ad 12°.

Her left nostril is normal. Her right has a long shelf on the septum almost occluding the inferior meatus and the right middle turbinal is tightly compressed against the septum.

On February 21, 1901, this nostril was relieved of its ecchondrosis and its offending middle turbinal. The extent of surface disturbed caused tedious recovery. But, exactly one month later this patient reported that she had slept so soundly she had not heard the breakfast bell, a most unheard of occurrence with her. She has had no headaches. Menstruation occurred in the interim and was painless for the first time.

April 23, 1901. At p.a. Ex. 4°, Ab 23°, Ad 41°. At 20′, Es. ½°, Ab 5°, Ad 65°. p.p. of Acc. o.d. 9 cm., o. s. 8 cm. p.p. of convgce. 7 cm.

A new experience with her is to be able to shop all day long without a headache. She is an inveterate reader and has been reading many books during this last month without any discomfort. I have given her no glasses for her hyperopia; she does not seem to need them. If she were to have her correction, doubtless her eye-muscles would give even a better account of themselves. But, *cui bono?* She is perfectly comfortable as she is. This case has an argument in it for those who say that ametropia is the sole cause of asthenopia.

Case VIII.—Miss E—— M——, twenty-seven years of age. Stenographer. Woman of solid build and sturdy endurance. Likes work and does not tire at it. She has been wearing for two years, o. u. + .75 c. a. 90°, given her on account of pain in the eyes recurring daily.

Present symptoms: Headaches frequent for the last six months, occasionally very severe, extending along the right side of the head to the occiput. She has noticed blurring in her right eye, especially at the onset of her headaches, which are severe enough to drive her home from her work.

V. o. u. = $^{10}/_{10}$. Javal 1.00 @ 90°. Media clear. Fundus normal. In Acc. Ex. 8°, Ab 30°, Ad 20°. p. p. of Convgce. 12 cm.

At p. r. Ex. ½°, Ab 4½°, Ad 15°. No hyperphoria.

Right middle turbinate closely compressed against the septum; left middle turbinate touches the septum more lightly. Divulsed both middle turbinates. After a month and a half with frequent tests in the interim, the following findings were obtained, associated with return of slight blurring in right eye, though headaches had been banished together with an irresistible desire to close the eyes in church.

In Acc. Ex. 6°, Ab 25°, Ad 16°. p. p. of Acc. o. d. 13 cm, o. s. 10 cm.

At 20′ Es. ½°, Ab 6½°, Ad 31°. p. p. of Convgce. 12 cm.

I found the right middle turbinate still no better for the attempt at divulsion and felt compelled to remove it, as the blurring continued and the patient was unwilling to let the treatment go at that. if the condition could be bettered. This turbinate was removed after which there was some nausea and pain in the right eye for forty-eight hours. Blurring and photophobia to some extent continued in the right eye for ten days, after which her tests were as follows:

At p. a. Es. 2°, Ab 26°, Ad 31°. p. p. of Acc. o. u. 10 cm.

At p. r. Es. 7°, Ab 6°, Ad 8°.

Improvement kept up daily. Blurring went away. In two weeks,

At p. a. Ex. 5°, Ab 24°, Ad 25°. p. p. of Acc. o. d. 10 cm. o. s. 9 cm.

At p. r. Es. 1°, Ab 6°, Ad 34°. p. p. of Convgce 11 cm.

Histories of cases belonging to the neurasthenic class also show improvement following proper attention to the same faulty condition. In these cases, however, I am loth to interfere radically; and I do so only upon the urgency of the patient's need of relief of most distressing symptoms, *i. e.,* when the asthenopia and headaches are both extreme.

When the removal of the whole of the middle turbinate is thought necessary, it is approached with great hesitation and circumspection. It is no light matter to deprive the nose of so important a functionary. Delevan[22] has pointed out a most scientific reason for its partial or complete removal. He found, by examination of the Hyett collection of skulls in the College of Physicians of Philadelphia, "in nearly every instance in which hypertrophy was observed it was confined to the middle turbinate bone of the wider naris." Operation for deflection would fail of its object without first removing a part, or the whole, of this hypertrophied body. After this, and not before, he would straighten the septum, and in this he is supported by Zuckerkandl.[23] I am able to add another reason to those which he has given. I have found in such a case that the hypertrophied middle turbinate was the cause of a concomitant asthenopia which was sufficient of itself to call for its reduction or removal, before returning the septum to its normal place. But, where conservative surgery can save the body of the turbinate, it should be saved. Pynchon's guarded trephine is useful to this end.

In the study of these and of other cases not yet reported I believe I have grounds for making the following postulate: A moderate amount of pressure or mechanical irritation of the middle turbinate and adjacent septum will temporarily impair the function of the ciliary muscle. To a less, or more variable, extent it will also impair that of the external ocular muscles. I have repeated this observation many times when giving to patients that mechanical treatment necessary to relieve such pressure. Now, if mechanical irritation for a brief period can impair the function of these muscles, how much more would a continuous pressure irritation of that same area keep up that impairment! It is such continuous pressure that is produced by a spur, or bend in the septum when it digs into a too-closely-applied middle turbinate.

I do not look upon the headaches in these cases as in any way a symptom of the asthenopia; they are but frequent associates, yet, they are often inseparable. The reason for this must be evident. They have a common cause, pressure on the same sensori-motor branches of the fifth nerve. So far as the sensory part is affected a radiated or a reflex headache is produced; so far as the sympathetic fibers are affected a vasomotor reflex is produced. This is equally true where there are inflammatory conditions, as in ethmoiditis. It matters little whether the pressure is from *within* the ethmoid cells and turbinate, or is applied to these from *without.* The important point is that the same branches of these nerves are the nerve elements pressed upon and therefore the same kind of disturbances should be expected to follow.

Not *pain,* but *tire* is the expression of sustained and exhaustive effort by weak or inharmoniously acting muscles. If pain ensues, it is secondary and not the direct result of effort. The only part which vasomotor nerves can take in producing pain is to increase the blood-supply to a sensitive area and thus increase its susceptibility. The asthenopic disturbance is probably from the sympathetic fibers in this particular class of cases. That it is such in all cases is also probable. It could properly be inferred from other facts, as, *e. g.,* when treatment addressed to the uterus, the bladder, or the stomach in other cases, has given relief of the asthenopic symptoms. The only thing conceivable as being common to all these varied causes is the element of the sympathetic nerves. In conclusion, I have only this to say by way of harmonizing the various facts, practices and theories, that I expect to see the time arrive when muscular asthenopia will be recognized as but a symptom of disturbance of a part of the sympathetic nervous system.

253 Gates avenue.

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CRIMINALS AND DEFECTIVES: HOW BEST TO REDUCE THEIR NUMBERS.

BY J. C. MC CASSEY, M.A., M.D.,

OF DAYTON, OHIO.

UPON the solution of this problem rests the welfare of home, nation and civilization. The proper study of mankind is man. At the dawn of the new century the United States finds itself confronted with an alarming increase of crime. During the past fifteen years the population of the

United States has increased 25 per cent., but during the same period crime has increased 60 per cent. During this period crime has markedly decreased in the British Dominions in proportion to the population. This increase in our criminals and defectives is a sore spot in our political and social system. No one can afford to ignore this subject. It concerns every taxpayer, and every one who makes his own living is a taxpayer, whether he owns real estate or not. The politicians and ward-heelers have virtually had charge of the criminals and defectives. It is time the physician should be called in to diagnose the disease, and proclaim to the world that crime and defectiveness are due to neglected education, heredity and disease. The wardens of penitentiaries and executive officers of reformatories should be physicians. The law as administered at present is intended for normal beings and not the criminal, who is an abnormal being. Careful and scientific treatment must be substituted for a political sport's system of management. Laws should be directed toward the criminal and not the crime. The basic causes of crime must be attacked. The remedy consists of prevention, reformation and education.

It is wise for a growing nation, like a growing boy, to consult a physician with regard to its health. The physician will prescribe and direct the following: Intelligence is the lever capable of raising mankind. Through it, we begin the conquest of ignorance, poverty and crime. The preacher, priest and hangman have failed to stay the rising tide of vice and crime. Ignorance, poverty and vice must stop populating the world. To this end woman must be taught to become mistress of herself and decide for herself whether she will or will not become a mother. Then the babes that are born will be welcome. They will fill homes with light and joy. People unable to support themselves fill the tenements, the huts, and the hovels with children. They depend on the Lord, on luck and on charity.

According to vital statistics it takes on an average about 3½ children to each couple to propagate their kind. Too many people are heedless of all Biblical commands except to "multiply and replenish the earth." More children have been borne to poor people than they can rear properly, whereas parents of education and means rarely have more than two children. If they have a third child, it is a mistake. This disparity is a cause of the lack of growth of the population at the top and of an excessive growth of the population at the bottom.

The man-made laws have accorded the male sex dominion over the female, which has placed millions of girls and women at a disadvantage in the struggle for bread, and which compels thousands of them yearly to accept degradation or starvation. The slur that is becoming affixed to "stenographer and typewriter" is familiar to many. One lady while seeking a position as a stenographer and typewriter was asked so often by those seeking her services, if she would be "accommodating" that she gave up the business for that of a trained nurse. *The Arena* for January, 1898, gives the following figures for Massachusetts, New York and Illinois: 16 per cent. of married men desert their first wives after the birth of their first child, and 28 per cent. after the birth of their second child. Women have opened their eyes to this condition, and as a result 18 per cent. of women of marriageable age in the United States have equipped themselves for earning a living independent of man. Thus, she was forced to take his position in manufacturing, mercantile, professional and other pursuits. The failure of husbands to provide for their wives cost them their jobs in many cases. The helpless slavery of woman with the attendant evils of enforced motherhood must be relegated to the rear as a crumbling relic of barbaric injustice.

If the father is the head and hands of the family, the mother is the heart.

Schools in Relation to Crime.—The intelligent taxpayers are compelled to take cognizance of the school question and the criminal problem in self-defence. It is more economical for taxpayers to support the kindergarten and the industrial schools, and thus teach the rising generation how to be self-supporting, than it is for them to maintain a great army of criminals and defectives. Many people go to prison because they have never learned how to earn an honest living. Manual training in our schools should be multiplied, skilled workmen of good character need not go long looking for work. It is the unskilled pretenders of questionable character that compose the swarming job-hunters. The men and women that come to the Friendly Inn expressing a willingness to do any kind of work, do their work so poorly and slovenly that in most cases it is economy to let them sit idle rather than allow them to spoil material. It is found that the higher the character of the daily pursuits in life the greater the unlikelihood of falling into crime. Criminals as a rule are only accustomed to the crudest forms of labor.

There is a false notion that university degrees for women will impair their usefulness as housekeepers or wives. The fact is university degrees to-day would be more useful to the nation among mothers than among female teachers. The female college graduates need not apologize to the world for their interest in learning. The better education a woman has the better she is fitted for motherhood. Both men and women in the household are governed by their hearts and not their heads. A man with a university degree does not neglect his children. College training does not unfit a woman for domestic duties. John Wesley's mother had a college training. She directed the education of her family, which reflected great honor upon her. The mother who can teach her children and direct their reading will command higher respect and love from them than the mother who is ignorant, however amiable. Let us give more instruction in cooking and

domestic economy, dignify this kind of knowledge and graduate good housewives rather than novel-readers, house-ornaments and factory-girls. To-day women who abhor cooking, mopping and general housework can be found in swarming myriads. Many women fitted by Nature to bring up children have their lives blighted by grappling with the dead languages or biology. The only valuable education is that which enables a person to make his or her way in the world.

Financial Standing.—This takes too high a rank over virtue and morality. It dominates the marts of trade and dictates the courtesies of the street, formulates the laws of fashion and times the chime of the marriage bells. Its voice is heard in the music of the choir and on the cushion of the pew. Everywhere the dollar sign is traced in threads of gold. Even the church and its moral forces falter to stem the tide and cringingly bow to the overmastering powers of wealth. We are all under the ban and have our shortcomings. It is said that if the least of the sins of the best of us were written across our foreheads, we would walk the streets with our hats pulled down.

Division of the Vicious Circle and the Saloon in Relation to Crime.—Eighty per cent. of drunkenness is due to heredity; alcohol causes 33 per cent of all diseases, 75 per cent. of the crimes, and 50 per cent. of the poverty that afflict our race. Intemperance of parents causes 34 per cent. of the imbecility in children. The general causes of insanity are: heredity, 50 to 60 per cent.; whisky, 12 per cent.; religious perversion, 10 per cent.; disappointment in love, 10 per cent.; financial embarrassment, 5 per cent. Crime, imbecility and insanity are due in 50 to 75 per cent. of cases to heredity; 50 per cent. of criminals are inebriates; 20 to 25 per cent. of criminals are born criminals. Three-fourths of the crime in our land is caused by neglecting education. Three-fourths of the crimes are committed by habitual criminals. Only 10 per cent. of the criminal offenses are detected and punished.

During the past year the corn crop in the United States was valued at seven hundred and fifty million dollars; cotton, three hundred and fifty million; wheat, three hundred and twenty-five million; oats, two hundred million; potatoes, one hundred million dollars. The amount paid last year for liquor consumed in the United States was one billion, one hundred and seventy million dollars, or an amount greater than the corn, cotton and wheat crop of the whole country. The only items that rose higher in value were the exports in general merchandise, $1,400,000,000, and income from railway service, $1,200,000,000 (Official Revenue Report).

It is found that 31 gallons of beer contains the same nourishment as one loaf of bread. The saloon is the home and resort of the criminal. It is the place where he spends the money obtained by crime. It is the place where he meditates on crime. Dram-drinking is not an offense against property. The drinker pays his money and takes his drink. If he is violating the laws of the land there is no one to complain. The offense is against society as a whole. In the case of housebreaking or theft there is no difficulty in finding the plaintiff, because he is interested in recovering damages or goods. The saloon is such a powerful factor in our political system that it seems to be impossible to get legislators to enact laws to regulate this great traffic. The saloons should be owned and run by the government. This would eliminate private gain. They should be run on the same plan as the post office.

Characteristics of Criminals.—The physical and moral characteristics of criminals are not so valuable in convicting them of crime as in classification and treatment. A person may have insane ancestry and be inevitably doomed to insanity; yet his liberty cannot be abridged without some warrant from his action or words. Also, a person may have many of the essential characteristics of a criminal, and through favorable environment he may pass through life as an upright citizen. The characteristics that are of interest and value are as follows:

The great bulk of criminal heads are of average size, but small and large heads predominate. Thieves more frequently have small heads and murderers large ones. While there is a lack of symmetry in nearly all heads, this is one of the most constant features of criminal skulls. The weight of the brain is not of importance. The shape and relative development are of more value. In criminals the weight of the cerebrum is above the normal average. Confluent fissures are found in the brains of criminals and idiots with more than ordinary frequency (Benedict). There are fewer convolutions in the brains of most criminals than in ordinary brains (Flesch). Meningitis has been found in 50 per cent. of criminals (Lombroso). The writer made autopsies on 50 insane criminals and in 29 cases found meningitis and more or less atrophy of the brain. In one case a colored patient, who was committed to the penitentiary for murder, refused to eat and was transferred to the Insane Asylum at Topeka, Kas., where he died six months later. An autopsy revealed meningitis and complete occlusion of the superior longitudinal sinus with inflammatory products. A patient whose case was in the courts of Atchison, Kan., for two years for the alleged crime of rape was finally acquitted of the crime, but was adjudged insane and sent to the asylum. When he died an autopsy revealed meningitis and atrophy of the upper part of both hemispheres of the brain.

From an examination of a large part of cases and autopsies on a considerable number, the writer is convinced that a large number of patients are erroneously sent to the State prison instead of to a hospital for the insane. Heart disease is found in 20 per cent. of criminals. Syphilis causes gummatous tumors in the brain and otherwise impairs the mental function and thus causes crime. Tuberculosis, owing to toxins circulating in the brain leads to crime. High

cheek-bones go with strong animal passions. Criminals usually have the lower jaw unusually developed. The ears are outstanding, the nose is crooked and has a poor bony framework. The skin is dark and pale; wrinkles appear prematurely about the mouth and nose and not in the forehead, as in profound thinkers. The assassin has animal eyes, usually eyes like a cat's eyes. Criminals are frequently left-handed, have tendon reflexes absent or exaggerated, great acuteness of vision, but defects in hearing, taste and smell. In them wounds heal rapidly, as in the crude races, such as the Egyptians and the Chinese. Criminals are usually flatfooted and below the average height and weight, and have deficient muscular development. Beautiful faces are rarely found among criminals. They are incapable of blushing. Thieves usually have great mobility of their features and hands. Their eyes are dark, small and restless, the eyebrows thick and close, the forehead usually narrow and receding. In the sexual offender the eyes are nearly always bright, the voice rough or cracked. The face is generally delicate, except the jaws, which are usually heavy. The lips and eyelids appear swollen. The homicide usually has a large beaked nose suggestive of a bird of prey and his eyes are glassy, cold and fixed. The sharper and forger, in order to inspire confidence, puts on an angelic face and a clerical appearance. In criminals, as a rule, the beard is scanty, the hair dark, abundant, long, and often wooly; baldness and gray hair are rare among them, but frequent among the insane, the business and professional man. Gray hair appears early in criminal women. Women guilty of infanticide usually have an excess of hair on the face. Eleven per cent. of idiots have continuous eyebrows. Among criminals dark hair predominates, except as regards sexual offenders, in whom fair hair abounds and the prevailing color is reddish. Red hair is infrequent among born criminals, but abundant among the insane and sexual offenders. Fair and redhaired persons are susceptible to fevers and zymotic diseases. The brightly pigmented persons with sensitive vascular system will soon be eliminated from the criminal calendar.

The crimes of women are generally due to emotional causes; as love, jealousy, hate, revenge, vanity, etc., because woman's emotional nature has been more highly developed. Women persist in crime more than men, because of the greater social ostracism of degraded women. Women endure pain and privation better than men, and therefore do not take to crime from want so readily as men. Women are more cruel than men, but criminal women are usually masculine. Females, being physically weaker than males, are addicted to crime only one-fifth as frequently and only excel the males in the commission of poisoning and infanticide. Woman's natural form of retrogression is prostitution. This is why there are no female tramps.

Even children readily form likes and dislikes for persons they meet. They have an intuitive knowledge of strangers. In the child, up to a certain age, are manifested the saddest tendencies of the criminal. Even infants at the age of two to twelve months manifest anger and rage and will strike at nurses and break dishes (Lombroso). Stanley Hall says all children are liars. The Psalmist, said in his haste, that all men are liars, and were he living to-day he could say this with deliberation. Children are too often induced by fraud and ruse to do things they dislike. Thus lessons in deception are learned. The child may prefer wrong to right, because the true moral sense is wanting. Many never pass from this to the higher plane. National education should be empowered to classify children according to their moral sense as well as their intellect. One corrupt pupil may infect the whole school. Those feeble in morals and intellect should have extra guidance and instruction. The idea of goodness should be held up, rather than that of badness. The way to destroy evil is not to hold up and analyze it in order to make it hateful, but rather to let it pass out of consciousness.

The subject of criminology has in store rich rewards for its students. Our knowledge of the subject to-day is but as droppings before the shower. The law of disease is as beautiful as the law of life. In the law of disease the line of progression is reversed. The born criminal is a moral monstrosity cast upon the shores of the present by the receding waves of barbarism. Savages drink blood before engaging in conflict. Many dwellers in civilization to-day become engaged in law-breaking and conflict after drinking whiskey. Mobs are incited to frenzy at the flow of blood and crowds catch the infection.

Crime occurs in epidemics under the inspiration of examples suggested and published in the newspapers, especially if the perpetrators escape detection.

The born criminal invariably has physical signs of degeneracy. They are akin to the victims of moral insanity. He is usually free from small vices, and often possesses considerable intellectual ability. He asserts that he cannot afford to drink for fear of impairing his skill in his craft. His language is slangy. He plots against the rich, he is always against the government, and he is unpatriotic. He may be religious. He lacks curiosity, the fundamental element in progressive education. He is insensible to pain, which is the cause of his cruelty. He can undergo surgical operations without an anesthetic. He lacks remorse. This is a sure sign of incurability. His lack of remorse and conscience accounts for the apparent sincerity with which guilt is denied and the equanimity with which he meets his doom. He is lacking in foresight and in the imaginative faculty, consequently no warning signals light for him the pathway of hidden danger. This is why he faces futurity with unconcern. Where this faculty is highly developed, it makes cowards of us all. The born criminal is notoriously untruthful, incapable of blushing, full of vanity and often exaggerates his crimes on this account.

Holmes confessed to crimes of which he was not guilty. The criminal by passion has no criminal characteristics and shows remorse for wrong-doing. He does not commit crimes against property. He is not a permanent enemy to society. He is simply lacking in self-control and accepts discipline and correction with advantage to himself and all concerned. The criminal from moral cowardice commits a small wrong, and, being lacking in sufficient moral courage to face the world and live it down, commits a greater crime in order to cover it up. Frantz of Dayton, Ohio, the slayer of Bessie Little, and Jackson and Walling, who beheaded Pearl Bryan, are examples.

Police System.—Frequently the police patrol is seen crashing through the streets at top speed as if life depended upon it; nine times out of ten the noise and crash over the cobble stones fails to arouse the captive from his drunken stupor. No high-grade skill is necessary to capture such victims and no great good is accomplished, except temporary removal of a nuisance. During the past years height, avoirdupois and political pull were the prerequisites for a position on the police force. The police tried to see as little wrong-doing as possible. They closed their eyes to glaring obliquities and the things they were paid to detect and correct. But since civil-service examinations are required great improvements in this system may be expected. I would go still further and fill all vacancies on the police force with high-school graduates or those holding certificates to teach in the county with the addition of requirements of a civil-service examination. This would create a demand for more highly educated people and cause an upward tendency in education. The police should be the guardians of morals of the people, should teach them to obey the law; be the supervisors of the children on the streets. The salaries of policemen range from $60 to $80 per month. High-school graduates and male teachers are begging for positions at $40 and $50 per month. Patrolling the beat is less confining and more healthful than teaching school. There would be no difficulty in filling the vacancies in the police force by well-educated men of good character.

Our population has 20 per cent. of foreigners in it, but they furnish more than half the inmates of our reformatories, one-third of our convicts and three-fourths of the paupers (F. H. Wine, Eleventh Census). The negro was transplanted on American soil against his will by the whites and kept in slavery 260 years. The negro forms 12 per cent. of the population of the United States, commits 32 per cent. of the crimes; contributes 8 per cent. of the paupers and only 5 per cent. of the lunatics.

Another cause of crime and pauperism is the undue flocking of the urban population to the cities.

The spoils system and political management of our jails and prisons make these institutions high schools of depravity. Then we have homicide for life insurance, which came with the advance of civilization; also the abuse of cocaine, opium and the other narcotics. The false representations and the false teachings of the tragedies of Shakespeare and other authors help to swell the lists of crimes on the calendar. Disobedience to the laws of Nature and physical hygiene during the present or preceding generations is found to be the main cause of crime, defects and disease. From the cradle to the grave, man is in constant danger from the effects of violated laws.

The Death Penalty.—The death penalty is in force for murder in all the States except Rhode Island, Michigan and Wisconsin. In 1874 capital punishment was abolished in Switzerland, the Cantons were permitted to restore it in 1879, but up to 1890 no Canton had done so. The death penalty was abolished in Holland in 1870, in Italy in 1889, and in Portugal in 1867. Capital punishment for ordinary homicides has been abolished in Russia for over a century, although it is still the punishment for treason. The general testimony is that there has been no increase of murder in those countries since such abolition. Where the penalty for murder is death the prisoner has many more chances to escape conviction than if the sentence is life imprisonment. There is a small percentage of convictions for murder compared with the number arraigned for murder. The death penalty is a crumbling relic of barbarism. It cost the State about $20,000 to try Durant; $20,000 to try Jackson and Walling; $25,000 to try Luetgert; $20,000 to try Frantz. The cost to the State for trying an alleged murder, if put on interest, would keep a person a whole lifetime in comparative luxury.

Remedy.—It is more economical to put forth every effort to prevent the formation of bad habits in the young than to try to reform confirmed transgressors.

The average length of sentences, including life sentences, is only two years, while the average confinement in insane asylums is four years.

The board of pardons should consist of sentencing judges, the warden of the prison, and one of the chief justices of the State. This board should meet quarterly, hear evidence and correct mistakes of sentence.

The issuing of marriage licenses should be restricted by a national law requiring medical and other certificates to be filed with the Probate Court, showing that the applicants for marriage licenses are free from insanity, criminality and other hereditary taints.

For the cure of the social evil the following prescription is offered: Extension of manual education and industrial schools; improvement in motherhood; stop lease system; extension of reformatory plan; adopt intermediate sentence; improvement in jails; extension of probation system, both for youths and adults, as in Massachusetts; work for prisoners even on short sentences and allowing them a portion of their earnings to be sent to their homes or families. Abolition of spoils system in prison management; higher grade of prison officers; physicians should

be wardens of penitentiary and executive officers of reformatories.

The physician, being armed with the chemical laboratory, the X-rays and other modern means of scientific investigation, will naturally become the mentor of the people, and, as he now protects our shores and municipalities from pestilence and infectious diseases, he will also protect society from crime.

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MEDICAL PROGRESS.

Organic Preparations of Iron.—JOLLES (*Wiener med. Bl.*, June 27, 1901) insists upon a classification of these preparations from a chemical standpoint. It is important to know whether a given preparation is an acid or an alkali-albuminate. In chlorosis and anemia the acid of the gastric juice is diminished. If in these conditions an alkali-albuminate be given, a combination is formed with the slight amount of acid present in the stomach and an increase of digestive disturbance results. On the other hand, acid-albumins containing iron make no hurtful demands on the weakened stomach and reach the intestine unchanged, ready for absorption. Fersan is an acid-albumin containing iron and phosphorus and is a type of the preparations which the author considers to be indicated in anemias.

New Phimosis Operation.—H. S. SCHLOFFER (*Centralbl. f. Chir.*, 1901, No. 26) states that true circumcision deprives the glans penis of its normal covering and later of its normal sensitiveness, and that the dorsal-incision method causes two unsightly and often unmanageable flaps. Phimosis can be cured without going to either extreme of inconvenience and still with entire satisfaction by the method devised by him and successfully employed for over a year. In the marked cases the ring causing the phimosis is cut a very short distance in the mid-dorsal line. After the skin is stretched evenly and firmly backward toward the base of the organ and held in that position, the *outer layer*, consisting of the skin only, is divided in a straight line with the knife obliquely to the right from the mid-dorsal line outward and backward till a point corresponding with the corona glandis is reached. The degree of obliquity of this cut depends entirely upon the degree of the phimosis. In the marked cases the end of this cut may end over the lower quadrant of the organ. Then the skin next the glans is cut toward the left from the midline outward at the point where the first cut began to the same length and amount of obliquity. When the foreskin is retracted gently a rhombus is formed by the two cuts. By placing a tenaculum in each of two diagonally opposite corners and pulling, it may be elongated according to needs and brought to lie transversely over the sulcus. The tension on the underlying connective tissue must be relieved by dividing it down to the tunica albuginea. The opposite long sides of the parallelogram are then sutured each to each, thus adding its length to the circumference of the original opening in the prepuce. When the foreskin is reduced to its normal position one-half the sutures are hidden against the glans and a free, cosmetically pleasing opening is produced and the foreskin is left to ensheath and protect the glans penis and its sensitiveness.

Ligation of the External Carotid.—W. W. KEEN (*Annals of Surg.*, July, 1901) reports two cases of severe hemorrhage, threatening life, one after tonsillotomy and the other after a slight intranasal operation, in which life was saved by ligation of the external carotid after the patients were very much blanched by the loss of blood. In one patient a tonsillotomy wound had continued to ooze rapidly notwithstanding all efforts to check it. In the second patient some apparently insignificant nasal growths had been curetted from the septum, but persistent bleeding was set up which nearly ended the patient's life. The fear which most surgeons have, that the wound which is necessary for the tying of the artery will in its turn be a bleeding area and continue or even aggravate the hemorrhage one is aiming to stop, Keen states is probably groundless. In these patients the artery was found and ligated in a very few moments and the incision closed by primary union without material bleeding at any time. As the hemorrhage at the original operation sites stopped almost at once and was permanently controlled by the procedure, he concludes that the little operation should be performed whenever such accidents occur. The one precaution of the treatment is to be certain that the external and not the internal carotid is tied. The latter unpardonable blunder is always fraught with damage, more or less pronounced and prolonged, to the cerebral substance.

Pruritus Vulvæ.—L. SIEBOURG (*Centralbl. f. Gyn.*, 1901, No. 26) makes the following contribution on the treatment of this vexatious and persistent condition. It was suggested by the fact that often after a copious subcutaneous injection of normal salt solution the skin will remain for several days either deprived of sensation or with depressed sensation. He does not mean to imply that all his cases are subjected to this treatment. He ordinarily manages them by having the cause fully removed

when possible, for example, acrid vaginal and uterine discharges, diabetes, cystitis, foul pessaries, pudendal vermin, etc. When the cause has been ascertained and removed he finds that ordinarily the itching disappears, but sometimes the patients are so nervous and irritated by their former trouble that the injured skin continues to irritate and a pruritus which ought to have vanished with its cause is maintained. For such cases he finds good hygiene, as to food, exercise, sleep, baths, coitus and douches, of great importance. Then resort may be had to some lotion producing local anesthesia, for example, one containing cocaine, menthol and phenol. Several ointments are of signal use even if the skin and mucosa are broken. His favorite is cocaine 2, menthol 5, phenol 1, vaselin 20 parts, spread upon gauze and held tightly in place with a T-bandage. In the more chronic cases he has the patient paint the parts with a mixture containing spir. rusci 50, acid. salicyl. 5, resorcin 1 part, night and morning. When these means have failed he uses injections of copious quantities of normal salt solution until the vulva is much swollen in both the skin and mucous aspects. The idea is to rupture by distention, if possible, the fine nerve filaments and thus destroy the itching. Various medicaments might be added, but the simple saline solution is the least dangerous. His success has up to the present time been very marked.

Pseudarthrosis.—F. COLLEY (*Centralbl. f. Chir.*, 1901, No. 26) relates a successful treatment of a case of pseudarthrosis of both bones of the forearm following a simple complete fracture due to very slight trauma. The comparative insignificance of the injury, together with the failure of any union after all the ordinary means of treatment had been diligently tried, suggested the possibility of a pathological fracture due to some neoplasm. An exploration and microscopical examination resulted negatively on this point, but not the slightest callus could be detected. Severe delirium tremens now set in, which forbade the undertaking of any bone suture. While maintaining the fragments in the best possible apposition with splints, he thought of irritation of the bone ends. For this purpose he used the method originally suggested by Arthur Barth, namely, bone ashes. He took femora of beeves and reduced them to ashes which he pulverized and then rendered sterile by heat. This mass he suspended in a mixture of gum arabic and water which was also sterilized by boiling. Finally a thin fluid mass was obtained which could be forced slowly through a large size syringe. Through his original exploratory wound he injected 10 c.c. every four weeks and succeeded in producing the desired results, first irritation, then callus-formation and, finally, ossification. He has been so pleased with his cure, which a year after the experiment is still good, that he has undertaken a long series of observations among animals, the net results of which will be published in full at a later date.

Castration For Tuberculous Testes.—VON BRUNS (*Arch. f. klin. Chir.*, B. 63, H. 4) states that the ultimate results of castration, unilateral and bilateral, for tuberculosis of the testicles are a matter of great importance and have long been an object of dispute. As a contribution toward the settlement of this question, he went through the records during the past fifty years at the clinic in Tübingen and gives the following conclusions. As to whether the whole testis or the epididymis and whether one or both organs should be removed, he sums up the arguments as follows: The removal of the entire testis is often unnecessary, because the epididymis is usually the first and only part to be involved. Therefore, with an early diagnosis it is sufficient to remove only the evident foci of the disease. Castration on one side is not justifiable, because the other elements of the genito-urinary tract are so often involved as to render its result null. This depends entirely upon the theory that testicular tuberculosis is a disease descending from one of the upper genito-urinary viscera. As a matter of fact, there is nothing to prevent the focus being primarily and simply testicular and later, by ascending involvement, attack the seminal vesicles, prostate, bladder, ureters and kidneys. Double castration should always be avoided, first, because when both testicles are attacked the rest of the tract is also involved, and, second, because of the psychical and moral effect upon the man. In support or destruction of these contentions he collected 111 cases with a subsequent history of each up to the limit of thirty-four years after the operation. Of these 78 were unilateral, 33 bilateral true castrations, *i.e.*, without attack upon the seminal vesicles or prostate. As to the progress of tuberculosis of the epididymis into the main testis, he found that within two months 18 per cent., three months 24 per cent., six months 40 per cent., and later than six months 60 per cent. of the testes had become diseased. Hence, within the first half-year nearly half of all cases have suffered extension and removal of the epididymis is only half the work. In his series of cases he finds 38 per cent. bilateral in their disease. Of these 23 per cent. had been castrated on one side and later had the other break down. As to the final prognosis, he elicited that 12 per cent. died of genito-urinary tuberculosis, 15 per cent. of pulmonary and other tuberculous disease. Of these the great majority were so diseased before the operation. Further, in 26 per cent. the second testis broke down. Of the cures he finds 46 per cent. permanent and the duration varied from three to thirty-four years. Such are the records for the unilateral castration. For the bilateral operation, about the same proportion died of genito-urinary disease, 15 per cent., 25 per cent., of scattered tuberculosis, while 56 per cent. show cures locally enduring from three to thirty years as the possibility of the second testis breaking down is, of course, expunged by the operation. No single case of insanity occurred. Of the total just 50 per cent. were cured for the balance of life. In

general death ensues in all who have tuberculous processes higher in the genito-urinary tract or elsewhere in the body.

Mammary Cancer.—W. L. RODMAN *(Annals of Surgery,* July, 1901) states that for the best results of removal of cancers of the mammary gland the following practical points must be observed. Not only the entire gland, but also all the adjacent supernumerary masses of glandular tissue must be removed, because these likewise have a tendency to a marked degree to become cancerous. Operative convenience and good sense require that the gland be dissected off from the upper regions downward, clearing Morenheim's space and axilla at the same time, and from the sternum outward. The skin incision must be very free so as to embrace all of the skin covering the gland. Both the pectoral muscles and the fascia overlying the intercostal muscles should be removed at the same time. In young women cancer is apt to follow a very active and short course. Hence all doubtful cases must be carefully investigated pathologically before the whole gland is sacrificed. In order to secure the best results of a total ablation of the mammary gland as to the primary healing of the wound he finds that Warren's incision is the best. The special feature of this method is that an inverted Y-shaped incision joins the posterior sweep of the main cut and a vertical straight one meets the anterior sweep over the subclavicular space. By undermining, the four flaps thus created can usually be brought into apposition and commonly primary union ensues and the patient is discharged in ten or twelve days.

Wounds of the Venous Sinuses.—H. R. WHARTON *(Annals of Surgery,* July, 1901) gives an analysis of seventy-five cases of wounds of the venous sinuses of the brain and makes the following deductions: (1) Wounds of the venous sinuses should be classed as among the more serious injuries, being followed by a high mortality from both extra- and intracranial hemorrhage and from infection; (2) they are especially liable to infection resulting in septic thrombus and pyemia; therefore, the greatest care must be exercised to render them aseptic and to keep them so; (3) the most satisfactory and usually aseptic method in controlling the bleeding is by gauze packing; (4) ligation of the venous sinuses is a procedure of peculiar and definite difficulties which prevent its employment except in those free wounds where the sinus is fully exposed and forbid its application in the ordinary accidents to the sinuses; (5) the tying of lateral ligature upon a sinus is much easier and less dangerous, but is available only in small wounds; (6) the suturing of small wounds of the sinuses is also a very valuable means of hemostasis, but cannot be used except when a small wound is freely in view; (7) forceps pressure is a very ready means of controlling hemorrhage from one of these channels but has its own peculiar dangers and has really no distinct advantage over the other methods.

Significance of Retrodisplacements of the Uterus.—G. HEINRICIUS *(Arch. f. Gyn.,* B. 63, H. 3) in discussing the pathogenesis and clinical status of retrodisplacements of the uterus, especially retroversio-flexio uteri, comes to the following conclusions. In the first place he considers that the typical text-book symptom-complex of this condition does not belong to simple but to complicated cases of this condition, namely, to the associated lesions and not to the mechanical displacement itself. Such symptoms are due to the concomitant endometritis and metritis and other inflammatory conditions. True circulatory stasis by mechanical interference with the blood-current he denies, stating that after ligating the main venous outflow, as in ablation of the tubes and ovaries, no uterine turgescence occurs, and pointing out that in simple cases all signs of it are also absent. As to the cause of this backward position of the organ he states that most cases are entirely a matter of developmental anomaly. In about the same percentage the condition is found in virgins, nulliparæ and paræ. In a very few instances, indeed, is a previous anteversion or a previously normally placed uterus converted into a retrodisplacement by childbirth. The treatment of retrodisplacements consists first in diagnosticating and then in curing the associated lesions, namely, the endometritis, metritis, bladder affections, simple digestive constipation and other gastro-enteric functional disturbances, simple or pronounced neurasthenia, hysteria, etc. He denies that the backward bending of so small an organ can cause an obstructive constipation in the vast majority of the cases, because we have a very large pelvic strait in which often large tumors are found existent for many months without this symptom. The influence of the uterus upon the bladder is also combated for the same reason. Pain in the back is a symptom of which many women complain, not because their womb has any rational physiological relation with their loins, but because through some cause, often removable, they have strained their back muscles or are subject to the musculo-nervous symptoms of hysteria or neurasthenia. It is not reasonable to believe that an organ which has so little influence upon the life of the patient and without which so many women live well and long, can possibly be the origin of even a part of the curious manifestations ascribed to it. It is certainly a fact that when these associated symptoms are treated as indicative of entirely independent conditions, the patients get entirely well, although the womb remains in retroversioflexion. It is hence to be observed that no woman be told of such displacement before a continuous and rational treatment of these accompanying conditions be followed, in order to avoid the depression, fear and dread incident upon knowing that her womb is back—an organ movable and certainly in many positions each day.

Linen Lace in Surgery.—F. KUHN (*Centralbl. f. Chir.,* 1901, No. 24), in endeavoring to avoid the maceration incident upon the use of rub-

ber tissue and the frequent tearing away of the skin-grafts consequent upon applying some of the other usual means of protection, came upon the suggestion of adapting ordinary rather coarse-mesh linen lace, such as is used for window curtains, as the primary dressing. He makes it impermeable to water by saturating it with celluloid. After the grafts are in place this "lace guard" is laid evenly and smoothly over them and extended well beyond the limits of the granulating area upon the sound skin. Here it is carefully gummed down by the aid of collodion. Then the usual absorbent outer dressings are applied over this. The advantages of this simple device he has found to be as follows: (1) the meshes of the waterproof lace hold the grafts firmly in place; (2) the regular joints of the lace impose an even pressure at every point, which can be increased by heaping on several thicknesses; (3) the highly porous covering thus provided is a very certain outlet of the various wound secretions. He has also found that all the usual difficulties of the Thiersch method of skin-grafting have been overcome by this little technic.

Optic Atrophy in Diabetes.—H. F. HANSELL *(Jour. of Nerv. and Ment. Dis.,* July, 1901) reports a case of binocular hemianopsia and optic nerve atrophy associated with diabetes mellitus. Optic nerve disease is a rare complication of diabetes, recurring double iritis being the most common eye lesion. Amblyopia without ophthalmoscopic changes, often referred to by writers, is probably due in all cases to an intracranial lesion or is the earliest stage of the retrobulbar neuritis which leads to atrophy. Hemianopsia, optic nerve atrophy and amblyopia are probably but indication of the three stages of retrobulbar neuritis leading to atrophy.

THERAPEUTIC HINTS.

Corset for Movable Kidney.—The corset should be as long in front as can be worn, to elevate and support the redundant lower abdominal wall and form at the waist line a shelf on which the kidney may rest. Having thrown the corset about the waist, the patient lies on the bed, draws up the knees, places the head on a pillow to relax the abdomen, and pushes the kidney into place. She then hooks the corset from below upward, the redundant abdominal wall being drawn within it. She should never be permitted to maintain the upright position without her corset on. The best corsets are made to order but the "straight-front" corsets of the shops give very good results.—A. E. GALLANT in *American Journal of Obstetrics,* July, 1901.

Massage after Gonorrheal Epididymitis.—During the acute inflammation, advise rest, preferably in bed, with the scrotum supported, and the local application of leeches, ice, emollients, baths or mercurial and belladonna ointment. Bouisson applies chloroform, Paquelin, the continuous current, and Velpeau, paracentesis to relieve tension. Many men prefer compression by bandages, collodion, suspensory, etc. After the acute inflammation has subsided, the permeability of the vas deferens may continue impaired by exudates and the effect of the inflammation on its wall. Here massage has the mechanical effect of pushing the exudate onward, promotes its rapid absorption by increasing the lymphatic and venous circulation, and stimulates the nutrition of the tissues by increased flow of blood from the arteries.—CHARLES COLOMBO in *Revue de Thérapie Physique.*

Heroin.—The lethal dose of heroin is one hundred times greater than its therapeutic dose, whereas the fatal dose of codeine is but ten times the amount usually prescribed. Heroin does not affect the appetite nor disturb the stomach, nor in ordinary dose does it have much effect on the circulation, but, through an action on the respiratory center, breathing is slowed and the depth and strength increased. No narcotic effect is noted except after a large dose, but it causes dryness of the pharynx and slight irritation of the fauces. As an analgesic it is inferior to morphine. It can be recommended, however, as superior to morphine or codeine in conditions of dyspnea or irritative cough, though as yet it is not known whether the habit is likely to be formed or not.—B. D. GILLIES in the *Montreal Medical Journal,* June, 1901.

Spinal Anæsthesia.—It is not necessary to have the needle point in the spinal canal, as anesthesia is produced if the solution is injected about the region, yet the canal is easily found and the same amount of drug is more effective when placed in the canal. The needle is best inserted between the fourth and fifth lumbar vertebræ, the tip of the fourth spinous process being a guide. The patient should be in a sitting posture with spine well flexed. The cocaine may be weighed out in envelopes and sterilized dry, then made into solution with sterile water, or the solution may be sterilized in a water-bath. Analgesia begins in the soles of the feet and extends upward to the clavicle. Some patients become pale and nauseated in a few minutes and vomit, or there may be a tremor of the lower extremities, talkativeness, or occipito-cervical headache. Sometimes these symptoms are delayed for some hours. Bier found that the cocaine necessary varied in individuals from 1-3 cg. (gr. ⅙-½) and that in many cases cocaine poisoning supervened. He tried tropacocaine, eucaine and other drugs, but found none so efficient as cocaine. The most annoying symptom following its use is headache. This is somewhat relieved, however, by codeine, bromides, hyoscine hydrobromide, or nitroglycerin. The special indications for spinal anesthesia in surgery are general peritonitis, distention of stomach and intestines, lung disease, disease of the kidneys, and advanced disease of the heart. It is also used in sciatica and in obstetrics.—ANGUS MCLEAN in the *Philadelphia Medical Journal,* July 6, 1901.

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SATURDAY, JULY 27, 1901.

NEW YORK'S HEALTH AND STREET CLEANING DEPARTMENT.

NEW YORK is a very dirty city at present, disgustingly dirty in fact. A Turkish town could hardly show more garbage, more dead animals or more general filth than some of the crowded streets of this much governed town. The day of Waring is like a white dream; but under Waring the Street Cleaning Department dreamed no dream; it worked. Now it leans back and fans itself and shrugs its shoulders. A great excuse pervades New York. It lies along its thoroughfares, it monopolizes its corners. It is the tunnel. While the avenues are turned into earthworks and the centers of traffic are blockaded, the Street Cleaning Department feels that it would be a waste of the people's good money to be continually cleaning up a street that needs just as much attention the next day, and so dirt and mud and dust and waste paper accumulate around the unsightly gaps in the streets and in the remoter corners of the city.

Added to the tunnel excuse is the hot wave excuse. The Street Cleaning Department is adjusted to an average daily allotment of dead horses, and starved cats in summer, but when the number jumps up ten times, what else can it do, but jog along and bury them in the order of their decease? The same sort of excuse might have served Colonel Waring when a young blizzard passed over the city and dropped uncounted tons of snow into the streets of New York for the citizens to plough into mire and slush. But Col. Waring was a man of action and not of excuses. He had obtained from reliable sources the information that New York was subject to snow storms that resulted in wet trousers and skirts for the pedestrian millions of the city, and that grip, pneumonia and sudden death were the inevitable result of jogging on and letting Nature take her course with the snow, as she is doing at present with the bodies of dead beasts. He was prepared for the emergency, and the people of New York went to their business as dry of foot as the Israelites crossing the Jordan.

Now the present Street Cleaning Department could have forecast how the combination of a tunnel and a hot wave would affect the city's appearance, and, instead of getting Monday's work done by Saturday night and keeping the Sabbath in a pious and discouraged frame of mind, it might have had an emergency force ready to do each day's work promptly, to do it in the cool of the day, to do it in the dead of night, as long as it was done.

The dust that is blowing and sifting through the city is a menace to health every hour of the day. The city needs constant sprinkling. The fleas and pests of uncleanliness that are beginning to swarm are indicative of plentiful breeding-places that need scrubbing out. The diseases that come from decaying matter are too many to mention. Were we subjects of the Sultan we might shrug our shoulders and say "As Allah wills," but being responsible and intelligent citizens, as well as physicians, we demand better returns for our investments.

ETIOLOGY AND TREATMENT OF "CHRISTIAN SCIENCE."

IT is still a disputed point whether the primary cause of "Christian Science" was a mental instability or a clever business venture on the part of its founder. Certain it is that she has displayed great cleverness in her personal proof that in Christian Science there is no such thing as poverty. Like an echo of Mrs. Eddy's voice comes from Chicago the message of Dowie, "the prophet," alias Elijah, alias John the Baptist:

" Listen to the first message of the prophet. You must pay your tithes and offerings."

The contagiousness of the affection may be attributed largely to a desire for novelty. This is well developed in those in whom ideas of a religious character are absolute strangers, or have never been thoroughly awakened and so appeal as completely new, arousing excitement and enthusiasm as does a " revival." The belief is optimistic—no sickness, no poverty—and so attracts pleasure-lovers. These four elements—hysterical excitement, instinctive religious cravings, love of mystery and of pleasure—are the most potent factors in supporting new movements. That which is founded upon the first of these is usually short-lived, and wisely the pseudo-scientists have subordinated this element to the others. The introduction of a garbled religious element is one of the most dangerous features of the so-called science, and its chief aid is the factor of mystery furnished by the meaningless transpositions and combinations of words in its ritual, and by the adoption of the technic of the quack. The gullibility of the public concerning medical matters is most natural because of their ignorance of these subjects, and those who will accept the ministrations of the advertising " doctors " and " professors " are certain to be reached by the additional attraction of the religious element, particularly when this inculcates the doctrine that there is no poverty, no pain, no sin.

Christian Science is dangerous because it appeals to those who, unable to follow an argument logically, are lead by meaningless but to them high sounding words. Reaction is sure to follow, as in other movements resting upon unstable bases.

How is this reaction to be hastened and the symptoms of the disease limited? Direct legislation against the so-called Christian Scientists, if it were possible, would merely lend the aid which persecution always does, and would enable them to pose as martyrs, while evasion of any law is possible. Restriction of individual liberty will not be tolerated in this country. It would be difficult to convince many that a man has not the right to his own beliefs, and just this point makes the insertion of the religious element most dangerous. While public opinion condemns the action of the would-be suicide and no difficulty is experienced in securing legislation against one who attempts to take his own life, it is another matter to secure such universal approval of adverse legislation if the same attempt be made under guise of a religious belief. The so-called Christian Scientist does not openly claim the right of suicide or murder, but does so indirectly by his refusal to accept medical aid, and supports his action by the plea of religious conviction—an inviolable matter. Against this defense direct legislation is difficult and of questionable value. It has been shown, too, that forbidding the practice of Christian Science for pecuniary reward would be inefficacious, as this law could be circumvented by the acceptance of gifts from the patient before or after rendering service claimed to be religious in character.

The point which it appears can be controlled by law is the refusal to permit medical care of others, which bears to their own refusal of such assistance the same relation which manslaughter does to suicide. The enforcement of laws making such wilful disregard of the lives of others punishable as manslaughter seems possible and should be effectual. A man is entitled to free enjoyment of his opinions only so long as they do not interfere with the rights of others. No one has the right to sacrifice the life of another for pecuniary gain or in connection with a delusion. If an attempt were made to escape imprisonment for manslaughter under such a law, on the plea that the defendant believed it right, the only logical conclusion would be that he was suffering from a delusion dangerous to others as well as himself and required confinement in an asylum for the insane. Against such offenders the sanitary code cannot be too rigidly enforced as the rights of others are concerned, particularly in relation to contagious diseases. The recent decision of Judge Tuthill of Chicago that children of parents who refuse them medical aid when ill should be committed to the care of medical institutions is a step in the right direction. To this extent legislation may go, on the ground of defending the rights of the public, without entering too deeply upon the question whether a so-called religion which justifies manslaughter, suicide, and also immorality by claiming that there is no sin, can lawfully be interfered with. To this limitation of results it appears that direct treatment of the acute attack of the delusion must be confined.

Prophylaxis is all important. Reaction against the new fad can most surely be brought about by preparing the coming generation for logical consideration of the delusions which will be

presented to them. General education is of value in enabling the detection of the fallacies with which the doctrines are so filled, but which are carefully hidden from the mind untrained for analytical thought by the barriers of meaningless phrases. The surest means of attack from a medical standpoint lies not in direct opposition by members of the profession, as this is sure to be ascribed by the followers of Mrs. Eddy and by many others to fear of competition.

Education is the greatest foe of superstition and ignorance, and this applies as fully to the treatment of Christian Science as to the overthrow of the power of the quack. The hold upon the community which the delusion possesses is obviously due largely to lack of knowledge of bodily laws. No one who possesses any connected understanding of anatomy and physiology can fail to see that matter does exist and is influenced by matter as well as by mind. To such a person the claim that a rubber plant can be treated effectually by Christian Science, or that all bodily ills can be cured by mental influence, seems as false as that perpetual motion can be secured by appeal to that power. Perpetual motion! What a financial possibility for Mrs. Eddy!

TRICHOTOXICON AND BALDNESS.

IT IS probable that ever since time began the premature loss of the hair of the head has been regarded as a personal calamity and the unfortunate being afflicted with calvities has been subjected to the unfeeling scoffs of his more hirsute peers. It is a far cry from the jeers of the *gamins* of Jericho, which so infuriated the baldheaded prophet Elisha that he turned upon them and cursed them, whereupon we are told, "There came forth two she-bears from the wood and tare forty and two children of them," to the stigma that in modern days attaches to the first row of orchestra chairs, yet through the ages the finger of derision has been steadily pointed at the luckless baldhead and it has ever been a shining mark for the witticisms of the unregenerate. Therefore it is not surprising that the nature of this deplorable state has formed the subject of much learned ratiocination and many and various are the hypotheses that have been formulated to account for its origin. Some of these seem plausible enough, yet here, as often in other matters, the problem of sex has proved the rock upon which many a well-trimmed theory has split, for but few navigators in this particular stream have been able to do more than be thankful that woman, at least, is exempt and usually preserves her crowning glory to the very end.

But the ingenuity of the theorists has not been wholly baffled and many have found in the differences in head-gear affected by the sexes an explanation which comforts and satisfies their questing spirits, while other daring searchers after truth have not scrupled to lay bare even the mysteries of the bedchamber and assert that woman's method of emerging from her *robe de nuit,* since it spares her the cephalic friction that attends man's more headlong maneuver, is the chief bulwark and defense of this, her most cherished beauty.

But all these vagaries are destined to speedy oblivion, for a new prophet has arisen and, like young Lochinvar, he comes out of the West. Dr. Delos Parker of Detroit is his name and the *Medical Record* of July 13th is his mouthpiece. From his utterances it appears that an explanation of woman's capillose superiority resting upon true sexual differences has at last been found. Alopecia is a form of auto-intoxication depending upon the absorption of trichotoxicon, a substance formed under the influence of warmth and moisture in the unventilated portions of the lung. Man being an abdominal breather, the apices of his lungs remain relatively quiescent and furnish admirable laboratories for the elaboration of this poison, while woman, through the costal respiration forced upon her by her corset, saves her hair at the expenses of her liver and other abdominal viscera.

In the interest of the dress-reform movement we trust that this information will not become generally disseminated, yet it is pathetic to think how much human suffering would have been averted had the crinicultural value of the corset only been earlier recognized and what multitudes of glabrous calvaria might have been luxuriantly clothed had their owners only learned in time to breathe properly by encasing their manly forms in stays.

TUBERCULOSIS IN ITS HUMAN AND BOVINE RELATIONS.

THE recent announcement of Dr. Robert Koch of Berlin before the British Congress for Tuberculosis that bovine tuberculosis is not communicable to the human species will be received with the deepest interest, but not without much surprise and considerable skepticism on both sides of the Atlantic.

The scientific data and details upon which Professor Koch bases his startling conclusion are not now at hand, but it may not be amiss at this point to recall some observations which may prove difficult of explanation should his conclusion be confirmed by others. For our own part we do not feel disposed to regard, without certain limitations, such a belief either probable in truth or consistent with experience. However, we reserve a fuller appreciation of the distinguished scientist's results and criticism of his arguments for a subsequent time. Of the statement one might well say:

"Till at last the waves so high do rise,
"As seems to bid defiance to the skies."

The belief that bovine tubercle bacillus is incapable of inducing tuberculosis in man is, of course, by no means new. For years there have been advocates of this side of the question; and it is only about two years ago that an article embodying the same conclusion was written by Dr. Edward Moore of Albany, N. Y., who, taking this view of the matter, had made especial use of the results obtained by Dr. Theobold Smith in his comparative study of tubercle bacilli of bovine and human derivation. Although these results suggest certain morphological, cultural and experimental differences they by no means establish any inability on the part of the bovine tubercle bacillus to incite tuberculosis in human beings.

As a matter of fact there is an abundance of clinical evidence which indicates this capacity. Thus Tscheving of Copenhagen in 1888 reported a case in point. The sufferer was a veterinary surgeon who wounded his finger while making an autopsy on a tuberculous cow. Local tuberculosis in the wounded part developed in a short time. Lefévre (*Sur la tuberclose par inoculations cutanée chez l'homme,* Paris, 1888) collected other equally striking examples which would be very difficult of explanation if our present view is incorrect.

ECHOES AND NEWS.

NEW YORK.

Brooklyn Death-Rate about Normal.—The death-rate for Brooklyn for the week ending July 20, 1901, was 485, about the normal rate for this time of the year. Seven of these deaths were due to the heat. The mortality among children was 144.

Green Men for the Work.—On account of Civil-Service complications the Brooklyn Health Department has been obliged to dispense with the services of the physicians recently appointed on the "summer corps." These men were assigned to do duty as vaccinators and the Civil-Service Commission has ruled that all such must be appointed from an appropriate eligible list.

St. Mary's Hospital Appointments.—Drs. J. Richard Kevin and E. Arthur Parker have been appointed surgeons, and Drs. Thomas F. Mylod, John Lee, Robert Morrison and Joseph Murphy, assistant surgeons.

A Coroner in Trouble.—Affidavits charging Coroner Geo. W. Delap of Brooklyn with unlawfully extorting bribes and conniving at false verdicts at inquests have been placed in the hands of District Attorney Clarke for investigation. The principal charge against Dr. Delap is made by Mrs. Kate Leutz, a widow, who accuses him of extorting $100 from her on a threat that she could not collect the insurance on her husband's life unless she paid $75 to him and $25 to Coroner's Physician Henderson, since deceased. Dr. Delap denies the charges *in toto.*

To Report on Central Tunnel.—As a result of complaints voiced through the *Evening Post,* Commissioner Sexton of the Health Department, this afternoon, sent two inspectors to make a report on the conditions prevailing in the New York Central Railroad tunnel. Commissioner Sexton has laid the matter before the counsel for the Department, and doubts whether anything can be done, even if the inspectors say that the tunnel is detrimental to public health.

To Fight the Mosquito.—The Health Officer of the Port, Dr. Alvah Doty, has decided to take hold of the mosquito question on Staten Island, and attempt the extermination of these pests. A section of the island adjacent to the Quarantine Station has been selected for the test. Dr. Doty said of his plans last week as follows: "We have been at work for the past year in our laboratory on the mosquito larvæ, in order to determine bacteriologically what can be done. The first thing is to determine if the insect produces malaria; the second is to answer the question, if so, can malaria be prevented by the extermination of the mosquito and its larvæ? The test I have determined to make will be applied to a section of Staten Island adjoining our station, and opposite the quarantine islands, in extent about three miles by one and one-half miles. The boundaries of this section are New Dorp Lane, Richmond Road, Vanderbilt Avenue, and New York Bay. All the swamps, ponds, marshes, and wet places will be inspected by men from our laboratory, to determine just where the possible breeding-places are located. The mosquito and its larvæ will be taken in such places, and will be examined to determine the presence of malaria. Local physicians will be asked to co-

operate by reporting all cases of malaria. All intelligent cooperation of citizens also will be requested. In the treatment of breeding-places petroleum will be an important factor. This test is in line with our quarantine work, as the quarantine hospital for yellow fever is located adjacent to the section selected for the test." Some Staten Islanders, annoyed at mosquitoes, have found an extract made from citronella a good means of personal defence. The extract is used like fly oil; that is, rubbed on the face and hands.

Health Department Appointments.—The Municipal Civil-Service Commission recently announced several appointments to positions in the city departments. Among them were the following: Theodore Walser, Assistant Sanitary Superintendent, Department of Health in the Borough of Richmond, $3,000. Arthur F. Simonson, Lay Sanitary Inspector, Department of Health, Manhattan, $1,200. Oswald B. Franz, Lay Sanitary Inspector, Department of Health, Manhattan, $1,200.

PHILADELPHIA.

City Hospital to Be Improved.—The Philadelphia Hospital is to be improved at once, whether the Almshouse and Insane Departments are removed or not. The Petty Island site for the latter has not been decided upon, the prevalence of malaria being an important argument against its adoption. The improvements to be added are to cost $80,000, being distributed as follows: Children's hospital, $35,000; hospital for contagious skin diseases, $35,000; maternity house, $10,000.

University of Pennsylvania.—The chair of assistant clinical professor of genito-urinary diseases has been filled by the appointment of Dr. Thomas R. Neilson.

Outings for the Indigent of the City.—Movements in aid of the various fresh-air enterprises are unusually popular this summer. The Children's Sanitarium at Redbank is caring for its full capacity daily. The several seaside homes and hospitals maintained at Atlantic City by individuals and corporations of this city are filled and have hundreds on the waiting list. Several of the daily papers have instituted homes for children, started free ice funds, etc. These measures undoubtedly saved numbers of lives during the recent heated spell.

Quarantine Physician a Victim.—Dr. J. R. Caldwell of Chester, late quarantine physician at Marcus Hook, died July 21st. Dr. Caldwell was taken ill some time ago as the result of fumigating a ship and was in a critical condition during the past month. He served with distinction during the Civil War and was at one time a leading politician.

Hospital Appropriations Reduced by the Governor.—Mention was made in this column some time since of the dissatisfaction caused by certain appropriations by the Legislature. The changes made by the Governor before signing the bills have shown that a portion of the storm of protests were not called for, but they have caused additional disappointments. Many of the reductions affect the smallest institutions of the State, but the larger ones have been greatly reduced. The appropriation bills as signed include the following hospitals: University of Pennsylvania, $10,000; Jefferson, $50,000; Medico-Chirurgical, $40,000; Hahnemann, $5,000; Samaritan, $5,000; German, $38,000. The State Homeopathic Hospital for the Insane gets $250,000. The Free Hospital for Poor Consumptives receives $60,000.

CHICAGO.

The State Board of Charities.—This body has issued its quarterly bulletin for the three months ending June 30, 1901. The average number of inmates of the fourteen charitable institutions of Illinois during the quarter was 9,000. The net average cost *per capita* was $38.78, and the gross cost $43.91. The total cost of all the institutions was $432,743.66, and their total income $479,407.29. There is a total surplus of $103,666.53 in charity funds, and only $36,669.29 of debts.

Appointment of Dr. Porter.—Dr. Ralph S. Porter has been appointed surgeon of volunteers with the rank of major. He graduated from Rush Medical College in 1897. At the outbreak of the Spanish-American War he enlisted with the Second Illinois as assistant surgeon with the rank of lieutenant, and served with that regiment until May, 1899, when he returned to Chicago. On July 1st following he was appointed assistant surgeon to the Thirty-first Volunteers and assigned to duty in the Philippines. Major Porter is said to be the youngest medical officer in the United States Army to-day with the rank of surgeon major.

Dr. Senn's Trip around the World.—Under date of July 14th, Dr. Senn writes his first of a series of articles for the *Chicago Tribune*. In it he deals with the importance and necessity of professional men, particularly physicians, taking rest and recreation. The physician who has the interests and welfare of his profession at heart chooses a vacation which will secure rest for his weary brain and at the same time give him an opportunity to increase his knowledge of the various diseases and their treatment. A leisurely journey from one medical center to another will accomplish this, especially if combined with an ocean voyage. Such an itinerary gives him an opportunity to visit different countries, observe the habits and customs of the people, familiarize himself with the advantages and methods of education of different institutions, cultivate the acquaintance of men eminent in his profession as authors, teachers and practitioners, and observe

their methods of treatment. All this requires no special mental effort, and yet fills the storehouse of practical knowledge to a wonderful extent.

Physical Examination of Female School Teachers.—The physical examination of 300 candidates for places as school teachers was recently concluded. The average of the candidates taking the test was exceptionally high. Only a few were rejected, although the requirements were severe. The examinations were much the same as those of applicants for life insurance, with added optical and aural tests and examinations for evidence of disease and physical deformities. The result of the examination proves the truth of the conclusion reached in the work with school children, *i. e.*, that there is a distinct relationship between physical condition and intellectual capacity, the latter varying directly as the former. In the tests for vital capacity the great breathing capacities of the candidates who had taken gymnasium work at the school and had been prominent in athletic sports was in great contrast with those who took little physical exercise, suggesting that vital capacity increases and decreases with the amount of activity.

Finds Many Deformities.—Among the hundreds of cases of freak hands or feet which have been discovered and recorded by Professor Frederick Starr, of the Anthropology Department of the University of Chicago, are fifty minute descriptions of Chicagoans who have either too many or too few fingers and toes. Professor Starr has made another appeal to the members of his class for the names and addresses of people with superfluous members. He announced that it was his purpose to get full data upon 500 cases and then he would begin to formulate a new theory. Already he has records of 350 cases, some of the subjects having six, seven, and even nine fingers or toes on one extremity. Among the observations which he has already made is one to the effect that such deformities are more common in large than in small families.

Bogus Philanthropist.—Warden Healy of the Cook County Hospital recently discovered that a woman has been masquerading as a benevolent worker, when her real business has been to solicit patronage for a certain lawyer who makes personal damage suits a specialty. Although her ostensible mission was to bring tracts, flowers and sympathetic messages to the suffering, she was overheard to urge the objects of her attention to retain Attorney —— as their legal representative, and the Warden, who is making a heroic effort to clear the hospital of all claim agents, gave orders that hereafter bogus philanthropists be refused admittance to the wards.

Establishment of Sanitarium at Janesville, Wis.—Several of our leading physicians recently visited Janesville to consider the establishing of a large sanitarium at that point.

GENERAL.

Viscogen, a New Milk Adulterant.—Housekeepers and pure-food commissioners have a new foe to fight. It is viscogen as a milk adulterant. It has been found by inspectors of the Dairy Department in Minnesota, and, so far as known, its use is yet confined to that State. When its properties become generally known, however, it may confidently be looked for elsewhere. It is a syrup composed of sugar, lime, and water, about the color of water, and is used chiefly to make the milk appear richer than it really is. When viscogen is placed in milk or cream the lactic acid turns the lime in the fluid into a white, thick substance, which, assimilating with the milk, gives it an appearance and taste of great richness. It is possible through its use to palm off upon customers milk and cream which are far below standard.

Tuberculosis Among the Indians of Southeast Alaska.—Dr. Fox, of the Marine Hospital Service, reports on this as follows: "While in Alaska I learned that tuberculosis existed among the natives to quite an extent. While my observations on the subject were very superficial, I had a number of cases pointed out to me by the physicians as being of a tuberculous nature, obtained histories of hemoptysis, and saw many cases with symptoms of cough and a very suspicious-looking, profuse expectoration. Not only is the pulmonary form common, but one sees many cases of tuberculosis affecting the cervical glands and the bones and joints. The good effect of plenty of fresh air, which the Indians obtain while roaming around in the warmer weather, is rendered valueless by the evil effect of filthy surroundings while housed for the winter. Their houses are very dirty; in fact, I suppose they are not scrubbed out from one year's end to the other. Several families are crowded into one house, and when we consider the fact that many of them expectorate on the floor, the sputum, no doubt, often swarming with tubercle bacilli, it is no wonder that tuberculosis is so prevalent."

Public Tuberculosis Sanitarium for England.—At Tuesday's session of the Tuberculosis Congress, the Duke of Cambridge announced that a gift of £120,000 ($600,000) would be forthcoming for the purpose of establishing a public tuberculosis sanitarium as soon as the recommendations of the Congress concerning its establishment had been formulated.

Connecticut Consumptives' Hospital Begun.—Work upon the Consumptives' Hospital that is to be erected on Newington Mountain, a high suburban section of Hartford, was begun last week. The State has appropriated $25,000 for the enterprise, and an amount nearly as large has been contributed by private subscriptions. The undertaking represents the

first effort made in Connecticut for the segregation of the victims of pulmonary tuberculosis and their isolation treatment in an institution. The hospital building will be 276 feet long, and the central section will be two stories high. One wing will be for men and the other for women. The medical profession of the State is taking a keen interest in the project.

Opening of the Tuberculosis Congress.—Some twenty-five hundred British and foreign delegates were present at the opening of the International Congress of Tuberculosis, which His Royal Highness the Duke of Cambridge opened Monday, July 22d, in behalf of the King. It may be doubted if the roof of St. James' Hall ever covered a more distinguished assembly. His Royal Highness was chairman, immediately supported on the right and left of the platform by the American and French Ambassadors, the Ministers of Portugal, Denmark, the Netherlands and Greece; the Marquis of Lansdowne, Earl Cadogan, Lord Strathcom, the Lord Mayor, Lord Lister, Lord Derby, Sir James Blyth, Professor Clifford Allbutt and Sir James Crichton-Browne, while in the serried ranks which filled the tiers of the great platform were the Duke of Northumberland, the Marquis of Bath, Earl Spencer, Colonel Fitzgeorge and Professor Koch. Nearly three hundred other leading representatives of British, foreign, American and colonial states and associations were present. Mr. Malcolm Morris, Honorary Secretary, read the report of the Committee, which laid emphasis on the part taken by His Majesty in promoting the Congress, and the assistance rendered by the Marquis of Lansdowne and Mr. Chamberlain in forwarding the invitations to foreign countries and the colonies. The Duke of Cambridge said: "It becomes my duty to open the Congress at the request of His Majesty the King who had intended personally to have taken the chair, which under the present circumstances he cannot do."

Shortly before the close of the afternoon's proceedings the following telegraphic message was received from King Edward:

"I have just received your telegram, and thank you for having kindly consented to open the Congress in my name. I am glad to hear that the ceremony passed off so well. I pray you heartily to thank for me the eminent men belonging to almost every nation who have assembled to-day under your presidency, and to express to them my earnest hope that the valuable information which they will give to the world as the result of the deliberations of the British Congress on Tuberculosis will further assist in mitigating that dire disease which has baffled the most distinguished physicians so long. "EDWARD REX."

Lord Lansdowne, in behalf of His Majesty's Government, tendered a cordial welcome to the foreign delegates, saying: "This nation has lately been passing through all the anxieties and sorrows of a prolonged war, which has carried to many of their homes desolation and calamity. But no war that was ever waged brought with it anything like the burdens of misfortune which tuberculosis from time immemorial has carried to every land. Happily, they are no longer regarded as an inevitable scourge."

Lord Lister spoke for the medical profession of the islands. Thanks, he said, to the illustrious man who would address them to-morrow, Dr. Koch, they now knew the enemy they had to fight. They also knew from Dr. Pasteur that this enemy, the microbe of tuberculosis, like all others, was incapable of originating *de novo*, but must in all cases be derived from a similar organism. Here there arose a hope, a splendid prospect of prevention. But they did not look to prevention only; they might also seek to cure consumption. In this respect, matters recently had become much more hopeful. They were learning more every day of the powers of the animal organism to resist the invasion of the bacillus. The physician might learn something of the surgeon in this respect. They could sometimes sweep away the bacillus and restore the organism affected to its prestine health. He hoped the deliberations of the Congress would be fraught with good, but the general public must help the physician and surgeon. He trusted that the assembly of scientific men from all parts of the world would indicate the means by which it would be able eventually to stamp out this great scourge of the human race.

Obituary.—Dr. Adolph W. Dunbar, a well-known young physician of Brooklyn, died on Saturday of typhoid fever at his home, 22 Seventh Avenue, in his twenty-eighth year. He was a graduate of the Polytechnic College in Brooklyn, Princeton College and Bellevue Hospital. He was a member of the Crescent Athletic Club, the Princeton Club and the Long Island Medical Association.

Dr. George A. Blanchard, Assistant Surgeon of the Thirteenth Regiment, died July 19th of typhoid fever. He served as surgeon throughout the Spanish-American War.

Dr. L. Wolff, widely known among the medical men of Philadelphia as a throat and nose specialist, died suddenly July 21st, of Bright's disease. Dr. Wolff was formerly on the staff of the German Hospital, but lately had given his entire attention to the practice of his specialty.

Plague in New York Harbor.—A case of plague has just been discovered in an entering vessel in New York Harbor.

State Laboratory Opened.—The State Laboratory for the production of anti-typhoid, antitetanus and other remedial sera has just been opened.

CORRESPONDENCE.

VALVULAR DISEASE AND PULMONARY TUBERCULOSIS.

To the Editor of the MEDICAL NEWS:

DEAR SIR: I should be excessively obliged to the subscribers of your valuable journal for answers to the following queries:

I. In what percentage of the cases of chronic valvular disease affecting the mitral and aortic segments has pulmonary tuberculosis developed as a secondary event?

II. If notes have been kept, kindly give the total number of cases, both of valvular disease and pulmonary tuberculosis, as well as the percentage.

III. If no records have been kept, kindly state opinion as to the frequency of the occurrence of pulmonary tuberculosis secondary to chronic valvular disease at the orifices mentioned above.

IV. What is the effect of valvular disease, mitral and aortic, upon the course of chronic pulmonary tuberculosis?

V. Have lesions of the pulmonary artery valves seemed to predispose to pulmonary tuberculosis? (Statistics on this head are also desirable.)

VI. If chronic valvulitis affecting the mitral and aortic cusps exercises a preventive effect, what is the explanation?

VII. If disease of the pulmonary valves (I refer especially to stenosis) predisposes to phthisis, how is the effect accounted for?

J. M. ANDERS.

1605 Walnut Street, Philadelphia, July 17, 1901.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, July 12, 1901.

A DULL TIME—THE COMING ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION—THE MYSTERY OF BRITISH MEDICAL TITLES—"DRS." AND "MRS."—GRADUATES AND LICENTIATES—"BRUSSEL SPROUTS"—THE LAMBETH DEGREE.

IT has been said by some philosopher that the nation is happy which has no history. If this be so, the medical profession in these realms must be happy at present, for there is absolutely nothing to record in the way of incident. The General Medical Council has ceased to trouble and societies are at rest. The promoters of the Tuberculosis Congress are busy with their preparations, and the wirepullers of the British Medical Association are stringing their puppets ready for the show. At the latter meeting the question of reorganization will be discussed, and as there is a good deal of feeling about the matter in various quarters, there may be what our Parliamentary reporters call a "scene"—indeed, several "scenes"—"in the House." As I have already told you, the great body of the Association cares nothing about reform and the whole movement is the work of a few malcontents. But as a handful of active men who know their own minds can carry anything against an army of indifferent persons, it is probable that some sweeping measures of "reform" will be carried. What the issue of these may prove to be, it is impossible to foresee; but it is quite possible that it may be to reform the venerable Association itself out of existence. It is pretty certain that large numbers of members will resign if they are called upon to pay an increased subscription and compelled to belong to a Branch instead of adhering with convenient independence to the parent stem. But my business as your correspondent is, I take it, to speak of the present, not the future.

In default of anything better, it may be useful, if not very interesting, if I try to elucidate to your readers the mysteries of our medical titles. I have often had occasion to note that they puzzle our American visitors; and, it must be admitted they are very perplexing to the uninitiated. The subject is suggested to me by the fact that at present the question of titles is being debated in the medical journals, as it has been from time to time for the last thirty years. Within the memory of many people now living the profession in England was divided into physicians, surgeons and apothecaries. The physicians were "Doctors of Physic," as the degree is still called at the Universities of Oxford and Cambridge, and the possession of that academic dignity implied a residence of some years at College and a degree in Arts, with a corresponding amount of culture and all the other consequences of a youth passed in a good social environment. To attain to the rank of physician was the privilege of the few, for graduates of Edinburgh and the other Scottish universities were not held to be of the same standing as the men of the ancient English universities. Indeed, it was not easy for a graduate of any other university than Oxford or Cambridge to be admitted to the fellowship of the London College of Physicians. The foundation of the University of London in the early thirties made "physic" more democratic and realized Napoleon's program of *la carrière ouverte au talents.* The poorest lad who had brains carried the M.D. diploma in his pocket. The late Sir William Jenner used to say that if it had not been for the establishment of the University of London he could never have passed through the sacred portals of the College of Physicians. As a matter of fact, he began his professional life in a very lowly sphere of practice. The shop is still shown where the future medical counselor of Queen Victoria made up bottles of medicine and sold smalltooth combs. At that time the general practitioner or "apothecary" was not a graduate. He had passed the "College" and "Hall," like Bob Sawyer, and called himself "surgeon and accoucheur." Half a century earlier he would have been styled a "man-midwife" like Dr. Slop. The title of "surgeon" was a curious misnomer, for surgery was the branch of the art that he meddled with least. To his patients he was the "apothecary," and dames

of high degree spoke of "using the 'potecary.'" In George Eliot's "Middlemarch" a lady complains that Lydgate is a gentleman by birth and, therefore, she finds a certain awkwardness in "using" him; and English ladies in real life not so many years ago have been heard to say that they did not care to have as medical adviser a man whom they might meet at dinner. I suppose in certain cases the feeling would be something like that which a devout Catholic might feel in dining with his confessor. The apothecaries of course, always went by the style and title of "Mr." because they had no right to that of "Dr." Hospital surgeons, too, were plain "Mr." because they were generally not graduates of a University, but members or fellows of the College of Surgeons. So thoroughly established, indeed, is the custom that even nowadays when there are many Doctors of Medicine holding appointments as surgeons to hospitals, etiquette forbids them to use their title of Dr.

Nowadays there has been a great leveling up in point of education, and the rank and file are no longer content to be even "a little lower than the angels." Besides, there are greater facilities for getting a university degree, and one degree is pretty much as good as another, except that the doctorate of the older universities still carries with it a certain prestige, and that of London is held to represent the greatest amount of book work. But there is still a large proportion of the profession in England who, from being in too great a hurry to get into practice, or from not realizing the disadvantages at which the want of a degree would place them, were satisfied with a license. This can be got from the College of Physicians and Surgeons in London, Edinburgh and Dublin, from the Faculty of Physicians and Surgeons of Glasgow, and from the Society of Apothecaries, London. Holders of these licenses are strictly not titular "Drs." and, though courtesy may often concede the title, discourtesy can always refuse it. The Universities nearly all give the degree of "Bachelor" as well as "Doctor," of Medicine; and many are content to remain "M.B." without going on to the higher degree. Bachelors of Medicine have no right to claim the title of "Dr.," though they generally assume it; indeed, the Universities of Oxford and Cambridge expressly sanction the assumption everywhere except within the precincts of the University.

In Scotland where a university education has long, without the help of Mr. Carnegie, been accessible to every one who cared to work for it, all practitioners, with very rare exceptions, are graduates. But in England the majority are licentiates and the same in a less degree may be said of Ireland. But it is becoming more and and more the rule to take a degree, and the licentiates find themselves more and more handicapped in the race of professional life by the want of one. Hence, every now and then a wail goes up from them, and they call on the Colleges, on the General Medical Council, on the British Medical Association, and on the Government to do something for them. Some of them go abroad and pass a hurried examination, through an interpreter, and come home with all the blushing honor of a Belgian degree full upon them. This degree which does not give the right to practise in the country where it is issued is not thought much of, and the holders of it are playfully termed "Brussel sprouts." A few manage to get a degree from the University of Durham which humanely offers to examine practitioners of fifteen years' standing. But most of the licentiates would like to get a degree without the ceremony of an examination.

There is no doubt that it is a hardship for men in middle life to find themselves at a disadvantage with younger competitors who have had greater facilities for getting a degree. Twenty-five years ago the degrees of the older Universities were still only for the few; now Cambridge is the largest medical school in England. In those days students who wished to profit by the immense clinical material of the London Hospitals had practically only the University of London open to them; and the way to the degrees of that institution was long and also rough and beset with pitfalls. But it is not easy to see what can be done for the numerous licentiates who wish to exchange their plain "Mr." for the more learned prefix "Dr.," as only a university can now grant a degree. I say "now" because till the passage of the Medical Act in 1859 the Archbishop of Canterbury had the power of conferring the degree of "Dr." This was a survival of the medical system which made physicians dependent for the right to practise on the ecclesiastical authorities; and was very rightly swept away as an anachronism and an abuse. It is but fair to say, however, that the privilege was at least in modern times very seldom exercised by the Archbishop. The last holder of a "Lambeth degree" died some years ago.

If by a temporary stretch of grace the privilege —or something analogous thereto, to be exercised, say, by the Privy Council—could be revived, so that a degree might be placed within the reach of every deserving practitioner of a certain age too busy to be able to get it otherwise, a satisfactory solution of a problem of practical importance to a good many worthy men might be arrived at.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

THE DEVELOPMENT OF THE PARASITES OF BIRD'S BLOOD IN MOSQUITOES WHICH RESEMBLE THE MALARIAL ORGANISMS.

HERR NOCHT, at the Biological Section of the Medical Society of Hamburg, April 23, 1901, read a contribution on the development of certain parasites, resembling the malarial organisms, common in the blood of birds in mosquitoes. The author at first rehearsed the development of the

human malarial parasites in their intermediary host, the mosquito, and showed demonstration specimens. This cycle of development had been fully and diligently worked out in its every detail by the Italian investigators after the way had been primarily pointed out by Ross, MacCallum and Koch. The author himself had not yet fully succeeded in observing this cycle in its entirety in the short time since the establishment of the Hamburger Tropenhygienisches Institute. Although a very large number of malarial patients present themselves at the hospital, there are few who harbor the right stage of the parasites for such inoculation of mosquitoes. These types—the crescents of the tropical malaria and the spheroids of the tertian and quartan—are not found unless the patient has undergone several repeated attacks of the disease. Such victims are rarely found to-day among the sailors in a port like Hamburg, because in the short voyages of the modern steamship and brief port-calls only fresh infections occur. Further, the right kind of mosquito does not exist in Hamburg and its environment, namely the *Anopheles*. It also happens that in spite of all possible haste fresh importations of the *Anopheles* from outside arrive too late, because it is not right to keep the sufferers too long without quinine therapeusis. His ordinary source for the supply of the *Anopheles* is the marsh-country of the North Sea, where they are more abundant than the ordinary kind of mosquito, the *Culex*. Therefore in the German marshes there are the necessary kinds of mosquitoes for the intermediary development of the malarial organisms, but no one seems to think it necessary to sleep under mosquito-netting or to take other protection against the disease. The reason for this, as Koch has already suggested, is that by proper treatment the recent infections are not allowed to go on to chronic malarial poisoning, and therefore the disease is almost extinct among the people. Such patients at once seek medical aid, are quickly cured and therefore do not go about among the marsh-dwellers as the source from which the *Anopheles* may infect itself and in turn inoculate others. The author then described the life cycle of the organism similar to that of malaria found in the blood of birds and developing in the *Culex* mosquito. This growth is much more readily observed, because birds and this species of insect are both easily obtainable. He showed with the aid of many photographs the differences between the *Anopheles* and *Culex* mosquitoes, the infection of birds, that of the *Culices* and the later stages of development of the parasites, until that is reached in which the renewed inoculation of the birds is again possible. Further, the speaker discussed the epidemiological characteristics of the malarial diseases and showed how easily its dependence upon the presence of the *Anopheles* could be demonstrated. Notwithstanding this connection, however, there are two important points which still remain open to question. One is the fact that apparently fresh infections are found in regions which have no mosquitoes. The solution of this possible difficulty is that after careful investigation in such localities, the *Anopheles* mosquito has after all been found. This species is peculiar in hiding by day in cellars, houses, barns, stalls, etc., and swarming only at night. It is therefore much more difficult to find. Moreover, its bite is much less prominent and painful than is first of the *Culex* and can be easily overlooked. The other disputed point hangs on the fact that travellers through solitary wildernesses and marshes, where no human being has been, have been known to be stricken with malaria. The explanation of this interesting enigma probably is that the incubation of malaria may be a very long one, so that the real infection in such cases antedates the journey and the surroundings of the journey provoke the invasion. Again, it does not often happen that an expedition remains for a very long time out of connection with some human center, because, in order to carry only small quantities of provisions upon the various short extra journeys, the base must be reasonably near the abodes of man. Koch's findings, which have been fully established by the English, show that the vast majority of the natives, especially the children, are the victims of chronic infections. For the conquest of malaria three different methods are suggested, namely, the British, the Italian and the German. At the outset one must give up any idea of eradicating the disease by destroying the mosquitoes in the affected localities. The Italians have recommended the use of screens in the houses and of protective clothing. These have accomplished much in Italy and Koch has acknowledged that they cannot be useless. But probably Koch would be the last in a malarious district to envelop his sleeping quarters with netting. While in Italy this method of protection must be observed only during a few hot months, if one were to carry out logically the Italian ideas in the tropics, he must year in and year out subject himself to the personal discomforts and sanitary hindrances of it, too little ventilation at night, difficulty in moving about and increase of the heat in the summer. These are the primary objections to the Italian prophylaxis. The British regimen is that mosquito-nets should be employed with judgment in houses and clothing according to the locality and the season. They, however, go one step farther and recognize that the natives in a malarious country are the real hosts of the parasites and the true source of the danger. Consequently, they argue that there should be as wide a separation in every way as possible, dwellings, mercantile and household relations, etc., between the Europeans and the aborigines. This can be carried out to a limited extent, but has many difficulties and obstacles. Its chief weak point is that it leaves the malaria to continue its ravages among the natives unheeded and unchecked. The German plan, which Koch thought out and first formulated, rejects both the points of the British and the Italian investigators and aims to strike at the cause of the trouble, the malarial organisms

themselves. The blood of the natives is taken and examined for them, and such as are carrying the parasite and menacing public welfare are treated with quinine till they are cured and the source of danger removed. Koch recognized the great difficulties in the way of such a plan in a populous place, but on no other basis could he explain the reclamation of such formerly malarious localities as Hongkong, Batavia, etc. It is likely that in any place the regular, persistent, and painstaking administration of quinine would in the long run entirely eradicate the disease.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held Thursday, May 2, 1901.

The President, Robert F. Weir, M.D., in the Chair.

This meeting was held under the auspices of the Section on Surgery.

Portraits of Æsculapius, God of Medicine.—Dr. Charles L. Dana, one of the Vice-Presidents of the Academy, presented a series of photographs of the statues and temples of Æsculapius, the divine patron among the Greeks of Medicine and Healing. Some time ago Dr. Dana was asked where a copy of the portrait of Æsculapius could be found. His interest in the subject was aroused and has resulted in this collection. It includes photographs of all the types in which artists have created Æsculapius' features. The best statue of Æsculapius from an artistic standpoint was found in Melos not far from where the statue of the Venus de Milo was unearthed. This deserves to be called the Æsculapius de Milo and is of the very best Greek art. If not Phidian, it is the creation of a disciple who was very near Phidias. This type has been repeated with shades of difference a number of times. The next best statue of Æsculapius is that of Myron in the museum at Florence. This is also an excellent work of art, artistically only a little lower than the Phidian types. A third group of Æsculapian reproductions are found at Epidaurus near the temple of Æsculapius. Most of these are bas-reliefs. A fourth series of portrait statues of Æsculapius are late Greek or Roman in origin and are of a distinctly lower order of art. In the later statues the godlike calm of the countenance of the God of Medicine is replaced by the sorrowful, troubled features of the human physician, anxious about his patients. Many of the Roman statues of Æsculapius resemble Roman emperors and it is not always easy to distinguish them.

Temple of Æsculapius at Epidaurus.—The temple at Epidaurus existed from about 500 B.C. and was not without votaries until at least 300 A.D. The best-known temple was built about 380 B.C. For its construction, bids were advertised throughout the cities of Greece, quite as in modern times. Sixty contractors performed different parts of the work. The architect of the structure received about eighteen cents a day, good wages in those days. It took about five years to build and cost about $35,000 in our money, which represented nearly ten times as much in the money of that time. The temple was not large, about eighty feet by forty. It was especially famous for the handsome sculpture and decorations it contained. Several buildings were attached to the temple, all of them situated within the sacred grove of Æsculapius. There was a rotunda, within which was the sacred spring. There was a dormitory attached to the temple in which devout visitors slept in order to receive in dreams the directions of the God of Medicine with regard to the management of their health. The walls of the dormitory were lined with the votive tablets of those who felt that they had been benefited by the dream suggestions of the gods. The priests were supported and the temple was kept up by the offerings of devout clients of Æsculapius who came to Epidaurus for their health.

Theater at Epidaurus.—Situated at some little distance from the temple was the famous theater, the second largest in Greece. People who came to take the waters of Epidaurus at the sacred spring, to wander through the sacred grove and to live for a time in its quietude, did not neglect the benefits that might be derived from pleasant relaxation. The theater at Epidaurus was famous throughout Greece and was very well attended. It is evident that advantage was taken of all natural means of benefiting health at this old-time health resort and that, as in our modern health resorts, it was realized that relaxation for the mind would do much to benefit bodily ills. Not very much of the temple remains, but sufficient was unearthed about fifteen years ago to enable Greek scholars to restore on paper the temple of Æsculapius and the surrounding buildings as they existed in the olden times. Plans of the façade of the temple and of the interior of the rotunda and the dormitory, with a photograph of Epidaurus as it now appears, were also presented to the Academy by Dr. Dana.

Acute Intestinal Obstruction.—Dr. Howard Lilienthal read the paper of the evening on this subject. It concerned only the clinical aspect, that is, the diagnosis and treatment of the more acute forms of intestinal obstruction. This class of cases has a very high mortality. Death does not, however, take place from retention of feces, for there are many people of constipated habit, who have a movement not oftener than once a week and yet suffer very little inconvenience in their general health. When intestinal obstruction occurs, grave symptoms begin to develop almost at once.

The principal reason for this is the interference with the circulation in the intestinal wall. There are, however, other good reasons. One of the principal ones is the shock incident upon the strangulation of a vital organ. As the stasis in the gut becomes more marked even where peritonitis does not develop, spots of ulceration may occur on the serous surface and gangrene may result. As a consequence of the lowered vitality of the intestinal walls infectious micro-organisms readily find their way out of the gut and the peritonitis develops. The distention of the intestines with gas leads to interference with the heart action and also with respiration and this causes further symptoms and adds distinctly to the danger of the case.

Fatality of Intestinal Obstruction.—True intestinal obstruction is very fatal. According to a good authority, four thousand deaths per year occur in Germany alone from this cause. The same authority inclines to the view that only neuropathic cases of ileus recover. So-called medical cures take place in cases in which there was never any real intestinal obstruction, but only a spasmodic condition. These cases instead of being subjects for congratulation are really more harmful than beneficial. They perpetuate the idea that medical treatment may do some good in genuine intestinal obstruction.

Causes of Obstruction.—Sometimes the adhesions that form between portions of the intestine after an operation cause the obstruction. A case of appendicitis may be operated upon, free pus evacuated, and some weeks later intestinal obstruction may occur. In such cases it must not be forgotten that multiple obstruction may occur and the surgeon must assure himself that while relieving one obstruction he is not overlooking others that may continue the symptoms. In one case Rehn found a gauze compress blocking the gut. He concluded that this had been left in the peritoneal cavity after a preceding operation and had ulcerated its way into the intestine. It is possible, however, that it might have been swallowed.

Prophylaxis of Adhesions.—In order to avoid the formation of adhesions between intestinal coils after operation, the surgeon should exercise great care in handling the gut and not too much of it should be exposed. Deaver is inclined to think that appendicitis is often mistaken for intestinal obstruction. However. there seems no reason to doubt that intestinal obstruction is more frequent after peritonitis. Whenever there is any localized point of sensitiveness in the abdomen, no matter where it may be situated, it is well to think first of appendicitis.

Symptomatic Course.—Vomiting is one of the earliest and most characteristic symptoms of intestinal obstruction. When the obstruction is tight, the vomit may be projected for some distance. The nearer the obstruction is to the stomach, the sooner will vomiting occur, the more is the shock to the system and the sooner is relief required. The passage of foul gas is of more importance as a sign that the obstruction has yielded than the passage of feces. Some feces may be retained below the obstruction for some time. As a rule, fecal vomiting must not be waited for to confirm the diagnosis. This symptom usually comes too late in the course of the disease for operation to be successful.

Treatment Before Operation.—In adults in whom the symptoms of intestinal obstruction are not very acute and have not lasted long, an enema may be tried and a small injection of morphine given to relieve pain. A large injection of morphine will always mask the symptoms and do more harm than good. A second dose of morphine should not be given. Cathartics are always dangerous. If the patient has been of constipated habit and there have been no stools for several days before the symptoms of intestinal obstruction develop, a large enema is indicated. Important symptoms of genuine intestinal obstruction in contradiction to fecal impaction are the occurrence of ischuria and mouth-dryness. The latter often becomes a very troublesome symptom and it is one that can be depended on for more diagnostic significance than is usually attributed to it.

Atropine Treatment.—Notwithstanding the fact that atropine makes the mouth dryer and so adds to the patient's annoyance, it is sometimes used to overcome the spasm on which the intestinal obstruction depends, or, at least, so to relax the muscular walls of the intestines that Nature has a chance to overcome the obstruction. German observers have reported series of cases in which atropine has proven very satisfactory. In one case as much as ten milligrams have been given. It is claimed that it is antispasmodic and is also tonic in paralyzant conditions of the intestine. It must be given to the verge of delirium. It does more good in chronic cases than in the acute variety. It is extremely doubtful if it ever does any good after stercoracious vomiting has once set in.

Widal's Serum for Intestinal Obstruction.—A very interesting suggestion has come from Professor Widal of Paris with regard to treatment for intestinal obstruction. He considers that the constitutional symptoms of the condition are due to toxins in the blood as the result of the lowered resistive vitality of the intestinal wall due to stoppage of the circulation. He thinks that there should exist in the normal intestinal wall of animals some substance that would neutralize these toxins. He has succeeded in obtaining an animal extract which has given satisfaction in relieving the symptoms of artificial intestinal obstruction in animals. His scheme of therapeutics seems

eminently theoretic and yet considering his authority it must receive due weight.

Danger of Massage.—Massage is often suggested as a remedy for intestinal obstruction. Its employment in very acute cases where considerable changes have taken place in the intestinal walls would probably be followed by a fatal result. There are cases in which massage may do good. These are mainly of the spastic variety of intestinal obstruction, or at the very beginning of subacute cases. One case has been reported where two operations for intestinal obstruction were done and in each case a spastic contraction of the gut was found, so that the diameter of the intestine was scarcely more than that of a lead pencil. At both operations relief was afforded by forcing the contents of the gut, through this narrow lumen and overcoming the spasm.

Technic of Operation.—Dr. Lilienthal has had 41 per cent. of recoveries in his operative interventions, although many of the cases were in almost hopeless condition when the operation was undertaken. From his experience the following technic is advisable: The stomach should be washed out before operation is begun and even before the anesthetic is given. In the worst cases no general anesthetics should be given. The operation can be very well done under local anesthesia. When there is doubt as to where the incision should be made, a small incision that will admit one or two fingers should be made in the right iliac region. It is here, in the vicinity of the appendix, that the great majority of intestinal obstructions occur. If the obstruction cannot be located at once, a long median incision should be made. It is important to relieve the constriction as soon as possible, and the possibility of the presence of multiple obstructions must not be forgotten. The distention of the gut should be relieved by punctures in it opposite the mesenteric attachment which will give vent to the gas and to feces if necessary. Enterostomy should not be done unless a fatal termination is threatening. Little is to be gained by a cathartic after the operation if the obstruction has been well relieved.

Slight Advance in Surgery for Obstruction.—In discussing Dr. Lilienthal's paper. Dr. B. Farquhar Curtis said that the first public discussion in which he ever took part concerned intestinal obstruction. Notwithstanding the great advancement in surgery during the last twenty years, the successful treatment of intestinal obstruction is still far from being in a satisfactory condition. Patients do not come for operation any earlier than was the custom. Non-acute obstruction is relieved by medical means and the temptation is to wait too long before applying to the surgeon. It is still the common experience of surgeons to get moribund patients, cyanotic, and with intensely distended abdomen.

Progress in Symptoms.—To the symptoms of intestinal obstruction only one has been added within the last fifteen years! This is the presence of leucocytosis as an indication of peritonitis, or of threatening infection of the peritoneal cavity. Although it may seem conventional, the question of differentiation of intestinal obstruction and of strangulated hernia must still be discussed. Not long ago Dr. Curtis was asked to see a patient who had suffered from left femoral hernia, but this had not been down for two years. The patient was stout, yet not overstout. No swelling could be detected in the thigh where the femoral hernia should be looked for. At operation a small strangulated hernia was found, already gangrenous. This was reduced from within, but the patient did not recover.

Despite the advance in medicine and surgery, it is still difficult, if not impossible at times, to differentiate such conditions as pancreatitis and thrombosis of the mesentery gland from intestinal obstruction. When patients are old, malignant disease must always be thought of as the cause of symptoms of obstruction. It is possible for an annular stricture in cancer cases to have a very small lumen and yet produce no symptoms. This becomes plugged by some bit of indigestible material, or loss of power occurs in the gut just above the stricture and feces fail to pass. This condition of affairs will give the symptoms of acute intestinal obstruction very readily. In volvulus the presence of a localized tumor is of great value in indicating the site of the obstruction and showing where the incision should be made for operation.

Rectal Examination.—A precaution that is sometimes neglected and can not be too much insisted on is digital examination of the rectum, as soon as difficulty in defecation occurs. Very often the supposed intestinal obstruction will be found to be due to some pathological condition that can be reached very easily by the examining finger in the rectum. The general practitioner is especially prone to neglect this means of diagnosis.

Operative Technic.—The washing out of the stomach before operation is a great gain. Unfortunately the general practitioner uses this method in order to delay operation and the patient comes to the surgeon when exhausted beyond all hope of relief. As a rule the incision should be made in the median line, because this is more generally advantageous, unless there are distinct localizing symptoms.

Enterostomy.—Dr. Curtis asked leave to say a word in favor of the much-abused operation of enterostomy. It is of great value when patients have been very much weakened by preceding severe symptoms. It shortens very materially the time of operation and relief is afforded as soon as the opening is made. In most cases the artificial anus closes of itself. For enterostomy local anesthesia may be used

much more easily. Then the surgeon may wait until the patient is in better condition for further operative intervention.

Intussusception.—Dr. Charles L. Gibson said that this phase of intestinal obstruction deserves special attention. The mortality of intussusception jumps after the second day from 39 per cent. to 61 per cent. The condition must be relieved then as soon as possible. The septic condition that supervened very soon carries off the patient unless something is done for its relief. If gangrene threatens a portion of the intestine, enterostomy should not be done in the part of the gut the vitality of which has been suspiciously lowered. It is very hard to recognize portions of the intestine that are thus affected from external appearances only. With regard to the location of the obstruction, certain points help one to determine it. If there have been any symptoms of appendicitis, usually the obstruction will be found to exist in the left iliac region. In women, if there have been any gynecological troubles, obstruction usually takes place in the pelvis and a median incision low down must be made. Other circumstances enable us to locate and diagnose the trouble in special cases. Ileus is more liable to take place in old people and it is in this class of patients that pathological conditions consequent upon gall-stones are apt to set up intestinal obstruction.

Medical Views on Intestinal Obstruction.—Dr. Morris Manges said that the only medical treatment of acute intestinal obstruction is surgical intervention. The results of operation are not so discouraging as they were. Mikulicz reports 70 cases with 34 recoveries. It is the medical man's duty to diagnose intestinal obstruction as early as possible and then send for the surgeon. If the medical man waits until the classical picture of intestinal obstruction develops, very little hope is left for successful surgical intervention. The more classical the diagnostic picture the less the chance for recovery. Vomiting and shock are the early characteristic symptoms. Stercoraceous vomiting must not be waited for. A too fine diagnosis is dangerous. Extreme distention of the abdomen makes diagnosis very difficult. The importance of rectal examination cannot be too much insisted on. The symptoms of developing intestinal obstruction may be very insidious and deceptive. Passages of gas may occur, yet there may be no relief afforded to the symptoms and the patency of the stricture is not indicated. More important than the presence of gas in the rectum is the foulness of the gas that is given out. Indicanuria has its significance. An early and more important symptom is the presence of albumin, if it is known that it was not present in the urine before. This forms an important symptom of beginning peritonitis. Drugs very seldom do much good and their administration, as a rule, only serves to delay operations and to increase the danger. Large doses of atropine have been given, but it is doubtful if they ever did good. One-twelfth of a grain of atropine does not produce very enviable feelings in the patient. It seems probable that the cases in which the atropine treatment proved favorable have been reported. The others, in which it did no good, were passed on to the surgeon and failed to be reported by the medical man. The employment of atropine has proved useless at Mt. Sinai Hospital. One of the important symptoms is the reflex nervous shock. The septic condition that develops also affects the nervous system and adds to the depression.

Kehr's maxim with regard to intestinal obstruction deserves to be remembered. He says: "It takes less courage to recommend a surgeon in a case of intestinal obstruction than to attempt to treat the case medically."

Intussusception in Children.—Dr. Koplik said that the symptoms of intussusception in infants often do not develop suddenly, but insidiously. They often seem to point to the presence of an acute catarrhal gastritis, and the differential diagnosis becomes very difficult. In children, particularly, vomiting may occur and then disappear for twelve hours, or more, before reappearing again with beginning collapse. Even bloody vomit may occur, stop completely, and then recur. For the diagnosis of intussusception careful abdominal examination is very necessary. As the belly muscles are tightly distended in order to perform this examination satisfactorily an anesthetic must be given. In children, more than in adults, a rectal examination is very necessary. Whenever the presence of intussusception with intestinal obstruction is suspected, the physician should not wait for fecal vomiting and should not depend on intense prostration to give the relaxation which makes examination and diagnosis easier. In children, particularly, the case may prove fatal before fecal vomiting develops, or even before ordinary vomiting becomes serious.

Dangers of Enemata.—Dr. Robert F. Weir said that the important cause of general symptoms in cases of intestinal obstruction is the septic condition that develops. This must be relieved as soon as possible. After this the shock to the patient from the interference with the circulation and function of an important organ is the most serious element. The shock and septic condition are rendered much more serious in their effects by the increase in intra abdominal pressure. This interference with respiration and heart action adds to the danger of collapse. The distress may be largely increased by the administration of large enemata. Abuse in this matter must be carefully looked for. In one case under Dr. Weir's care an intestinal obstruction proved to be due to an old appendicitis, but many of the serious symptoms in the case were aggravated by an immense collection of water which had been

forced into the colon by injection. When enemata are given, they should not be repeated, unless there is assurance that most of the former injection has come away. As a rule, in the intervals betwen injections a long tube should be left in the rectum in order to relieve the pressure produced by an accumulation of water.

Spontaneous Relief in Intestinal Obstruction.—Dr. Sells reported a case of a woman of twenty-three, not very tall, weighing 235 pounds, who suffered from obstinate constipation. Symptoms of either an impaction of feces or an occlusion of the bowel developed and large quantities of olive oil were injected, a pint a day for several days. A spontaneous opening occurred through the umbilicus from which a large quantity of feces was evacuated. The case has always seemed to Dr. Sells obscure in its pathology, though he inclines to think that it was a case of intussusception with a contraction of adhesions to the abdominal wall.

Practical Points.—Dr. Lilienthal in closing the discussion said that where there is doubt as to the location of the obstructive lesion of the intestines, it is well to make a small incision in the right iliac region, just sufficient to admit one or two fingers. In the majority of cases the obstruction will be found in this portion of the abdomen. If it is not, nothing is added to the shock and no harm is done. The classical median incision may immediately be made and the operation proceeded with.

With regard to children it must be remembered that, while they bear the shock of intestinal obstruction badly and may die before their symptoms develop to the classical picture of intestinal occlusion, they bear operations very well. Certainly in this class of cases operations should be done much sooner than is usually the custom. It is much better to disturb the family by the suggestion that a surgeon should be called in early in the case than to endanger the little patient's life. Too much stress is laid on the fact that the friends of patients are disturbed by the suggestion of surgical interference. This is a relic of the time when operations upon the abdomen were practically a last resort and when they were done only with a forlorn hope that the patient might possibly be saved. Needless to say, the present standpoint of physicians and surgeons with regard to abdominal operations is very different to this.

BOOK REVIEWS.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY. Under the General Editorial Charge of GEORGE M. GOULD, M.D. Surgery. W. B. Saunders and Company, Philadelphia and London.

THE present is a worthy addition to this excellent series which has attained a well-deserved popularity with the profession. The plan adopted last year of issuing two volumes, one devoted to medicine and the other to surgery, is continued and the list of contributors remains practically unchanged. The volume is adequately illustrated and well indexed, while all the more important articles receive brief editorial comments which the eminence of their writers makes well deserving of consideration.

THE TECHNIQUE OF SURGICAL GYNECOLOGY. Devoted Exclusively to a Description of the Technique of Gynecological Operations. By AUGUSTIN H. GOELET, M.D., Professor of Gynecology in the New York School of Clinical Medicine. International Journal of Surgery Company, New York.

THIS book, as the title and preface declare, is devoted exclusively to the technique of gynecological operations. The indications for any particular operation in a case in which there might be a choice of several procedures are not discussed. Indeed, the volume is so limited in its scope and so exclusively personal in its character that it might well have been entitled "The Author's Technique in Surgical Gynecology." The preparation of the patient for operation is clearly and forcibly presented in the first chapter and its importance is wisely emphasized. Then follow chapters on preparation of the field of operation, preparation of the operator, operating room, etc. These descriptions are in line with the conventional methods now universally used. To this there is no objection, but when we approach the chapters descriptive of the operations we miss the air of broad surgical principles that should breathe through such pages, and find ourselves confined to the mechanical details of work done by the author's two-branched or four-branched dilators, the author's dull or sharp curette, the author's double-cutting-edge trachelorrhaphy knives, etc., etc. This is too narrow, too mechanical. No special knife is necessary for the performance of trachelorrhaphy, if the operator understands the principle of the operation and the essentials to success. The same remark applies to all the gynecological procedures. Special instruments, of course, are necessary, but slight modifications of established instruments for the purpose of meeting an individual operator's fancy and enable him to attach his name thereto are not of sufficient importance upon which to base an operative manual. Such is the fundamental weakness of the book under discussion. In addition to this there are numerous minor errors of technique and not a few major points open to criticism.

In the chapter on the care of patients after operation the author shows that he is a good nurse, resourceful and attentive. Definiteness of statement and fulness of detail must be the saving features of a book upon this subject, but the statements must be accurate and the details justified by experience.

CLINICAL PATHOLOGY OF THE BLOOD. A Treatise on the General Principles and Special Applications of Hematology. By JAMES EWING, A.M., M.D., Professor of Pathology in Cornell University Medical College, New York. Lea Brothers & Co., New York and Philadelphia.

THE enthusiasm with which the study of the blood has been taken up by clinicians, as well as laboratory workers, has been more than justified in the gaining of an immense amount of practical information. In order to keep pace with the rapidly accumulating facts which have practical, as well as theoretical, importance a number of excellent manuals have appeared in English and in foreign tongues. We confidently believe that the volume under consideration merits high praise and is to be considered the latest and best word on the general subject.

The study of hematology is bound to be one of the most important aids in medical diagnosis. Without it, in many cases, the practitioner stumbles along, without any idea of the fundamental trouble in many an involved and complicated condition. We know of no more practical and reliable guide than the present work. It is complete, exhaustive, accurate, and exhibits good judgment in the interpretation of the many studies made by numerous investigators.

The work is further commendable from the illustrative standpoint and for bibliographic completeness. The "up-to-date" man belies such characterization who does not take advantage of the important facts which are here collected and arranged for him.

EXPERIMENTAL PSYCHOLOGY. A Manual of Laboratory Practice. By EDWARD BRADFORD TITCHENER. Vol. I. Qualitative Experiments; Parts I.-II. Students' and Instructors' Manual. The Macmillan Company, New York.

THE present work typifies that tendency of modern psychology to get as far away from speculative interpretations of Nature's processes as possible. It is eminently a work dealing with experimental methods and, as such, one of the best in the English language.

The author has avoided, and we believe very wisely, the usual text-book style of definitions of psychological phenomena and has substituted a carefully arranged schedule of experiments, mostly with self-made apparatus, which affords the student, in the carrying out, the best type of observations concerning the essential features of the psychical processes involved.

We commend this manual most cordially to student and to teacher alike. To the neurologist and alienist the experiments in sense perceptions would prove suggestive and valuable.

A LABORATORY GUIDE IN ELEMENTARY BACTERIOLOGY. By WILLIAM DODGE FROST, Instructor in Bacteriology, University of Wisconsin. Published by the Author. Madison, Wisconsin.

THIS work consists of a book of laboratory sheets specially prepared and graded for the student of bacteriology. It constitutes note-book and text-book in one binding and as such is to be recommended. It deserves a wide use, as it is thorough, systematic and very carefully planned and worked out.

ESSENTIALS OF THE DISEASES OF CHILDREN. By WILLIAM M. POWELL, M.D. Third Edition, Thoroughly Revised by ALFRED HAND, JR., A.B., M.D., Dispensary Physician and Pathologist to the Children's Hospital, Philadelphia; Bacteriologist, the Bryn Mawr Hospital; Pathologist to St. Joseph's Hospital. Philadelphia and London, W. B. Saunders and Company.

WE are inclined to condemn the use of quiz-compends as leading students to study facts parrot-fashion with neglect of more complete works on the subject, yet in certain schools the compend is a popular book, and, if it must needs be, we cannot help feeling grateful if it is carefully compiled by competent men from the best works. In the past few years the advances in pediatrics and infant-feeding have been rapid and extensive, and this new matter has not been forgotten in this revision. Numerous excellent prescriptions have been included, the metric system, however, being completely ignored. Splenic anemia is not mentioned, and in modifying milk for artificial feeding, cow's milk is assumed to contain 3.5 per cent. of fat, a low percentage.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

ANÆSTHETICS AND THEIR ADMINISTRATION. A Text-Book for Medical and Dental Practitioners. By Dr. F. W. Hewitt. 8vo, 527 pages. Illustrated. The Macmillan Company, New York.

HOW TO COOK FOR THE SICK AND CONVALESCENT. Arranged for the Physician, Trained Nurse and Home Use. By Helena V. Sachse. 12mo., 239 pages. Illustrated. J. B. Lippincott Company, Philadelphia.

THE HYGIENE OF TRANSMISSABLE DISEASES: THEIR CAUSATION, MODES OF DISSEMINATION AND METHODS OF PREVENTION. By Dr. A. C. Abbott. 8vo, 351 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

PROCEEDINGS OF THE NINTH ANNUAL MEETING OF THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES. 8vo, 507 pages. R. R. Donnelley & Sons' Co., Chicago.

DIE SERUM BAKTERIENTOXIN UND ORGAN-PRAPARATE. By Dr. Max v. Waldheim. Demi 8vo, 404 pages. V. Hartleben, Wien, Pest, Leipzig.

PRACTICAL SURGERY. For the General Practitioner. By Dr. Nicholas Senn. 8vo, 1,133 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

ESSENTIALS OF THE DISEASES OF THE EYE. By Dr. E. Jackson. 12mo., 261 pages. Illustrated. W. B. Saunders & Co., Philadelphia and London.

REPORT OF BOARD OF HEALTH AND BOARD OF CHARITIES OF PORTO RICO. 8vo, Washington.

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ORIGINAL ARTICLES.

INJURIES OF THE HEAD IN THE NEW-BORN.

BY ANDREW F. CURRIER, M.D.,
OF NEW YORK.

THE importance of this class of injuries is measured, not merely by the immediate damage to the head or soft parts of the skull, but by the possibilities of death as a near or remote result, by the possibility of life-long defect or deformity, and especially by such detrimental effect upon the structure of the brain, which effect cannot always be analyzed or explained, that development is arrested or prevented, the individual manifesting mental incompetence in any degree from slight backwardness to hopeless idiocy. The significance of the lesions which may be received is not fairly appreciated by the medical profession and this gives increased importance to the subject.

Notwithstanding the fact that these lesions are immediately fatal or fatal within a few hours or days, in very many cases it is a rare occurrence that a careful postmortem examination be made except as an occasional incident in a public institution. There is an abundant literature of cases in which injury to the skull has taken place, but comparatively few in which the exact pathological condition has been studied.

No one will deny that the obstetric forceps are used far more frequently than they were a generation ago. The result has been, on the whole, favorable to safe delivery and subsequent well-being of the child, but a train of evils has also attended the use of this beneficent instrument, including its untimely, or injudicious or unskilful application with occasional destructive results to the mother and very frequent damage to the child, its head being bruised, the bones fissured or fractured, the blood-vessels torn and the brain compressed.

It would seem desirable that the writers of textbooks on obstetrics should more cogently express the great possibilities of harm to the child's head from this means not less than from the failure to take advantage of it at the proper time.

The injuries which are under consideration may be received during natural labor or during artificial or assisted labor. They may involve (1) the parts external to the cranium; (2) the bones of the cranium; (3) the structures within the cranium. They may result (*a*) in immediate death; (*b*) in death after a few days or months; (*c*) in recovery, but with permanent lesions of the skull, and possibly with such injury to the brain that mental development may be permanently retarded or wholly checked and paralysis render certain areas of the body useless or ineffective; (*d*) in recovery with disappearance of all evidence of the injury received.

Concerning the injuries received during natural labor the cause must usually be a disproportion between the fetal head and the maternal pelvis. The head may be very large, at least relatively to the dimensions of the pelvis; it may be hydrocephalic; the fontanelles may be small; the bones may be unusually hard and ossification so far advanced that opposite sides will not overlap in the process of molding, which is the conservative element in many tedious and difficult labors. Also the skull may be asymmetrical, one or more bones of one side being much larger or smaller than their fellows upon the opposite side.

In many of the recorded cases, especially those in which the skull has been deeply indented, the fault has been clearly attributable to a too prominent sacro-vertebral angle or sacral promontory, whether caused by the improper relations of the bones to each other or by an outgrowth or exostosis either at this point or elsewhere in the pelvis. The pelvis itself may be contracted, irregular or rachitic and prohibit the ordinary mechanism of labor. Rarely the fetal skull may be injured in connection with a lesion sustained by the mother during her labor, or even during the course of pregnancy, such as a blow or a fall, or by a sudden precipitate labor in which the child is hurled outward into the world by a tremendous pain, landing upon its head and bruising or crushing it.

Blot[1] reports a case in which a woman jumped from a window while in labor, breaking her pelvis. A dead child was delivered with forceps. Both parietal bones were found broken. The fracture was recognized before the application of the forceps.

Casper[2] reports a case in which the cranium of a rachitic child was fractured during labor. There were evidences of other fractures which had been received during fetal life. There had been cerebral and meningeal hemorrhage. The labor was easy, the head soft and membranous. Death occurred in eight hours.

Perry[3] reports a case in which a child's scalp was lacerated from the right parietal across to the left, the bones being exposed. Exfoliation occurred, leaving the brain exposed over an area as large as half a dollar. The labor was natural, though a very severe one.

In rachitic children in whom the bones are badly developed and imperfectly ossified, fracture may take place *in utero* or in connection with a labor so easy that the mother is scarcely conscious of pain. The fracture may also be attended with copious hemorrhage.

A large head in a small pelvis, or even a nor-

mal head in a nearly normal pelvis, may be retained so long that the brain will be dangerously compressed. This is not an infrequent occurrence when the uterine contractions are indefinitely suspended in connection with the uterine inertia. Such cases were far more frequent in the past than now, the labor being allowed to linger for days rather than interfere with what were suposed to be the legitimate efforts of Nature.

A skull which has been compressed by such prolonged incarceration may resume its proper contour after a longer or briefer period of time and give no outward evidence of injury, but it is quite probable that if the sensitive brain has undergone compression to a considerable degree for many hours the result will be disastrous to the child, imbecility or idiocy being the consequence. Of course, the effects of this injury may not be apparent for months or even years. In cases of this character the effects of hemorrhage may also be disastrous, the blood escaping through an opening in the scalp, or forming a tumor under the scalp, or the pericranium, or effusing and coagulating within the membranes or within the substance of the brain itself. It is largely to the credit of modern gynecology that these terrible accidents have become less frequent, for, by the advocacy of the timely use and proper application of the forceps or other suitable instrumental procedures, it has indicated the way to anticipate and obviate them, while it has at the same time brought relief to the troublesome injuries to the maternal soft parts, which were so common when labor remained unassisted for several days.

Concerning the injuries which are received during artificial or assisted labor, such injuries may be unavoidable from the peculiar circumstances in a given case, or they may be the result of carelessness or ignorance, or a want of skill on the part of the accoucheur or midwife. The forceps may be badly applied, lacerating the tissues of the mother as well as those of the fetal head, traction may have no regard for the pelvic axis, or the requisite degree of force, or the disturbing effect which it is likely to produce upon both the maternal and fetal circulation. Especially when the application of the forceps is made above the brim, are these conditions likely to be fulfilled. Probably the percentage of injuries and fatal accidents to the fetus under these conditions is greater than in any other operative procedure which is not distinctly and intentionally destructive. The injuries to the fetal head from compression with the forceps are also numerous and are often fatal even when the instrument is properly adjusted and is applied within the pelvic cavity. Whatever may be said to the contrary it is difficult to imagine the effective use of the forceps in a pelvis which is nearly or quite filled by a fetal head without compression of that head and the greater the disproportion between the head and the pelvis the greater must be the compression. With difficult extractions and extensive molding of the head, it is probable that we would very often find even in children who do perfectly well after the first few days of life, in addition to the ordinary *caput succedaneum,* an accumulation of fluid or clotted blood under the pericranium, between the meninges or into the substance of the brain itself. We would also find more frequently than is usually supposed fissures and fractures in the immediate vicinity of one or both of the parietal eminences, for these parts are brittle and in many cases only imperfectly ossified at birth and sustain such accidents with only a moderate exhibition of force. The operation of version, so useful when skilfully and successfully performed and so destructive when badly performed or performed in cases in which the conditions are unfavorable to success, has also its percentage of injuries to the fetal head.[4]

Attempts to rectify an unfavorable position of the head or face by the hands or by forceps may result in fracture of bones of the head or face with coincident hemorrhage, which may result fatally. Or the bones may be so soft that the fingers penetrate them and produce serious injury to the brain. Idiocy has followed such an accident.[5] In twenty-nine cases in which version was performed, the frontal bone was fractured six times.

A distinguished obstetrician caused compression of the cranium with a single finger while attempting to rotate a head in a narrow outlet. Epileptic seizures continued for six weeks, and these were followed by choreic movements which still persisted when the child was four and a half months old. The injuries which are possible from the injudicious use of ergot are frequently hinted at in the treatises upon obstetrics, but I do not recall any writer who has referred specifically to such injuries in individual cases. The tremendous expulsive force with which the uterine muscle is sometimes endowed, amounting in some cases, it is said, to one hundred pounds, is manifested in the cases of precipitate labor in which the child is hurled into the world as if from a catapult and usually loses his life in the procedure, the bones being fractured by the violence of the delivery, or crushed by striking stones or other hard objects after its expulsion from the maternal body. These cases are often, and properly, the subjects of medico-legal investigation. We can readily understand, with these facts in view, the force which may be added to the uterine muscle by the stimulation of ergot, and it is not strange that fracture of fetal bones should result from such overstimulation. Unfortunately there have been few reports of injuries of this kind, the reason being obvious.

Veit[6] reports a case in which seven grams of ergot were given in the course of a three-day labor, causing tetanic contraction of the uterus. A dead child was delivered with forceps. There was hemorrhage under the pericranium, overlapping of the parietal bones, loosening of the sutures and fissures in the right parietal.

Swayne[7] reports one stillbirth due to the violent action of ergot, and another due to ergot plus forceps.

The injuries which are under consideration may involve (1) the parts which are external to the cranium; (2) the bones of the cranium; (3) the structures within the cranium.

1. The parts which are external to the cranium. The injuries may occur in either natural or assisted labor. The simplest form of this kind of injury is that in which with increase of pressure, as the head advances in the pelvis, the circulation in the scalp is impeded and the watery elements of the blood are squeezed out of the vessels into the surrounding tissue, accumulating at the most advanced situation of the head, where the resistance is least and forming what is awkwardly termed *caput succedaneum*. This tumor, as every one knows, quickly disappears after labor has been completed, and the circulation of the scalp has resumed its usual conditions.

When the labor has been one of considerable severity, the cranial compression having been great, either from rapid propulsion through the pelvis, or from prolonged retention within the pelvis, or from great violence in the use of the forceps, blood-vessels within the scalp may be ruptured, while the tumor which precedes the head, and which, under ordinary conditions, contains serum, will now contain blood and certainly lend greater gravity to the situation, possibly becoming a serious menace to the life of the child. Absorption of the contents of this tumor may occur, or there may be suppuration and abscess, and sometimes sloughing of all the soft tissues with necrosis and exfoliation of the bone. Death frequently results from such severe lesions.[8] These tumors may not be apparent immediately after birth, and several days may elapse before the development ceases. Their size will vary with the quantity of blood which has been lost.

If the face presents, the tumor, whether containing serum or blood, may be upon the face and it may leave an impression upon the skin which will persist during life. The soft parts of the head and face are also the seat of bruises, lacerations, indentations, and depressions caused by the slipping or compression of the forceps-blades, the violent use of the hand in performing version, or in rectifying faulty position, the scraping of the tissues as the head advances or is pulled downward by the projecting sacral promontory, or by an outgrowth of bone in some portion of the pelvis.

Pressure, whether by the forceps or the walls of the pelvis, may also bruise or crush the nose, the eyes, the lips, or the ears, and produce deformities which will be permanent. An interesting class of injuries to the face are the so-called birth palsies of Gowers, one side of the face being usually affected by undue pressure with the forceps over one or the other branch of the facial nerve. Fortunately, such injuries are usually either of short duration, the vitality of the nerve being restored and with it the muscular force, or they accompany other more serious injuries which speedily result in the death of the patient.

2. The bones of the cranium. The bones may be indented, fissured, dislocated, or fractured. Of course, it is possible that any of the bones, either cranial or facial, may be injured, even including those at the base of the cranium, but those which are most frequently injured are the frontal and parietal. All forms of injury to the bones may occur as well in natural as in assisted labor. Prolonged compression either by the unyielding walls of the pelvis or by instruments is almost certain to produce depression of one or more bones at the sutures or fontanelles. The sutures may be quite generally displaced and the bones correspondingly dislocated. A bone may be depressed to the extent of half an inch, or even more. A depression which is produced slowly is not usually as serious as one which is produced quickly and is usually recovered from. A bone may be depressed and fissured or fractured as well, or it may be fissured or fractured or both without depression. Bones may be fractured or dislocated in labors which are almost painless. They may also be fractured during fetal life, undergo complete repair, while others may sustain fracture during labor.[9] A fracture may be single or multiple, simple, compound, comminuted, or depressed. Unequal pressure upon the two sides of the head or face with the forceps may fracture a single bone, repeated and unskilful efforts may destroy the integrity of several bones.

Petit[10] reports a case in which the forceps were repeatedly applied unsuccessfully, the upper and lower maxillæ and the malar bones being dislocated and the muscles torn and infiltrated. The face presented and there was prolapse of the arms and the cord. Version was attempted, the uterus was ruptured and the woman died undelivered.

When a woman is delivered in the standing or sitting position, and the child is forcibly projected a distance of two and a half feet or more, if the fall is upon the head, and upon a hard object, such as a stone or floor, the bones of the vertex are usually crushed and comminuted. The resistance which may be offered by the umbilical cord does not materially modify the result. The medico-legal importance of this matter is considerable.

Fissuring of the bones may take place after very slight exhibition of force, this being due in many cases to imperfect or immature ossification. It is prone to start from a projecting structure, such as a parietal boss, an orbital ridge, a frontal eminence, a malar bone, etc., and may radiate in various directions. It may exist alone or in conjunction with other and more serious lesions. When it is uncomplicated, it is probably a condition of no very great importance, in most cases.

An indentation or depression is a not uncommon lesion which varies within wide limits in extent and significance. It may be only a slight dent or furrow, or it may be a deep depression,

it may even extend from one side of the head to the other, especially in the frontal or parietal region. It is frequently spoon-shaped, taking the impression of the bony prominence along which the head has scraped its way. A condition of this character is almost certain to occur when there is an exostosis in any portion of the pelvis, or when the sacro-vertebral angle is unduly prominent. In the latter condition the head is usually detained above the brim, and the forceps applied at mechanical disadvantage must drag the head along the unyielding obstruction. It has been frequently noted and alleged in such cases that the mark of the forceps if present at all did not coincide with the indentation or depression. But there are cases in which the indentation is clearly due to the action of the forceps, especially those in which one blade is applied over the brow or the face.

Perry[11] reports the case of a child born after a natural but severe labor, in which the scalp was torn from the right parietal across to the left. The bones were bared and necrosis over an area as large as half a dollar left the brain exposed. The child was well when three months old.

3. The structures within the cranium. Such injuries are the most serious of all and, if not at once destructive of life, may produce such an effect upon the nervous system that mental development is arrested and idiocy, epilepsy, insanity or some form of paralysis becomes the heritage of the individual. When the cranial bones are greatly depressed the phenomena are those which are well known in connection with compression of the brain at any period, coma and death in the severe cases, epilepsy, convulsions and paralysis in those which are less severe. Many of these cases are quite amenable to treatment and respond to such measures as remove the cause of the difficulty.

If the bones are fractured and splintered the brain and its membranes may be lacerated with or without compression and with severe resulting consequences.

Trismus and tetanus in the newborn are probably attributable in most cases to such accidents which are seldom if ever unaccompanied by hemorrhage.

Hemorrhage within the cranium is perhaps the cause of more of the severe results which attend labor than any other. Hemorrhage of the scalp or face may be unaccompanied by internal hemorrhage, but internal hemorrhage is seldom unaccompanied by hemorrhage of the scalp, though there may be no visible tumor, no break in the skin and no outward discharge of blood. Great numbers of stillborn children die from this cause. Though there may be no outward evidence of such a condition autopsies have repeatedly revealed an abundance of blood and clots between the skull and the membranes, in filtrating the membranes, spread over the surface of the hemispheres, or diffused within the substance of the brain and its ganglia.

Elliott[12] gives the following occurrences of hemorrhage within the skull. (1) In every variety of labor even when all seems favorable. (2) After birth when everything seems to promise freedom from risk. (3) In all cases, even where premature labor has been induced to diminish this among other dangers. (4) In utero before labor has begun.

If the compression of the head has been long continued either by the pelvis or by instruments the veins within the cranium will usually be engorged, serum or blood being present in the cavity, in the membranes, or in the ventricles, and microscopical examination may disclose minute effusions of blood throughout a large portion of the brain substance. The great vascularity of the scalp and the frail structure of the cranial sinuses should furnish adequate admonition of the necessity for great caution in applying force to the cranium in the process of delivery. Should the head be detained long at the vulva, the neck being constricted, congestion and apoplexy may be the result.

Internal hemorrhage though insufficient to produce a fatal result may cause the same troubles which an apoplexy causes at any period of life, hemiplegia, convulsions, epilepsy, etc. As in apoplexies at other periods of life, the blood may be absorbed while the disastrous effects of pressure and destruction of brain tissue persist. Hemorrhage within the skull may be combined with hemorrhage into the spinal cord and its membranes, rendering the individual helpless should life continue. Those cases in which blindness, deafness and want of smell are congenital probably are due in at least a certain proportion of instances to hemorrhage within the ganglia which control these special senses.

The result of the injuries which are under consideration are (1) immediate death, (2) death after a few days or months, (3) recovery with permanent lesions of the skull and, perhaps, with such injury to the brain that its development is arrested, while certain portions of the body remain paralyzed and useless.

1. Immediate death. It is a difficult matter to state the precise percentage of deaths from this cause. In those cases in which the labor has been long and severe, the exhibition of violence very great, whether from instrumental procedures or from the attempt of Nature to force a large head through a small pelvis, or from the want of coincidence between the diameters of the head and those of the pelvis, the fetal mortality must always be large. When the skull is crushed by a fall or any other cause, when the hemorrhage within the cranium has been very great, immediate death is the almost inevitable result. This is especially true when bleeding occurs within the brain, the ganglia, or the ventricles.

In a series of 153 forceps cases reported by Swayne there were 23 stillbirths. Of this number 17 children perished from the pressure of the forceps or the maternal efforts, or both combined.

Schroeder[13] reports 65 cases in which there

were ovoid or spoon-shaped depressions of the cranium. Of this number 32 were fatal, 22 being dead at birth.

Fritsch[14] thinks that those cases in which fracture of the skull has occurred are usually fatal from hemorrhage.

2. Death after a few days or months. This class includes those who are hopelessly injured and also those in whom septic complications arise, which, in children who are defective in vitality, cannot be successfully resisted. The greater number of these cases are also hemorrhage cases which have been associated with fracture or depression of the cranial bones. The septic complications are manifested by diarrhea, eruptions of the skin, phlegmonous inflammations in various portions of the body, abscess of the scalp, bones, or brain, and possibly necrosis of bone and sloughing of the softer tissues. In this class may also be included those who have destructive lesions of the brain from the pressure of bone, or the pressure of effused blood, resulting in paralysis of wider or narrower areas of the body, or in abolition of one or more of the special senses. Of the 26 fatal cases in more than 60 reports of injuries to the head which have been analyzed in the preparation of this paper only five are recorded as stillbirths while in the remainder life continued for periods varying from a few minutes, or hours, or days, to the eleventh month.

3. Recovery with permanent lesions of the skull and perhaps with such injury to the brain that its development is arrested, while certain portions of the body remain paralyzed and useless. The searching investigations of modern surgery have traced many a case of idiocy, or imbecility, or periodical convulsions to a lesion sustained during birth. Cases in which convulsions are periodical and in which the mind does not develop with the growth and development of the body certainly demand careful examination with the view of determining their relationship to a possible injury at birth which may be manifested by depression of the cranial bones or some other lesion of the skull. The severer examples of persistent injury, apart from those in which the growth of the brain is checked, are those which suffer with hemiplegia, facial paralysis, blindness, deafness or want of smell. The depressions and indentations of the bones become less conspicuous as life progresses, but they may remain as permanent stigmata of an entrance into the world under great difficulty. Among the cases which have been analyzed and in which the result was reported there appears but one in which the marks remained until death, in the others they remained visible from six weeks to five years. In two there was facial paralysis the duration of which was not noted, in two there was hemiplegia, one of the two having already reached the thirty-seventh year, and in one there was idiocy.

Dauchez[15] mentions three forms of paralysis which attend difficult labor; (1) spontaneous from natural obstacles or deformities; (2) from traction, version, or forceps; (3) pseudoparalysis with dislocation of one or both upper extremities.

Parrot and Troisier[16] studied the condition of the facial nerve after paralysis from injury with forceps at the stylomastoid foramen. In some of the cases no lesion of the brain was found; in others there was hemorrhage under the scalp, inflammation of the meninges, or laceration of the sinuses which were filled with clots. Paralysis may not appear for a day or two after birth, and if the nerve is examined microscopically it will be found disintegrated and the seat of fatty infiltration. It was believed that renewal of the nerve-structure could take place with care of the degenerated muscles.

The number of cases in this class is very large. Slight injuries to the head are received by many infants during delivery, scalp wounds, pressure marks from forceps, depression of the nose, swellings of tissue, even paralysis of the face. The lesion being trivial, the duration of the bad symptoms may not exceed a few days. The *caput succedaneum,* when composed of serum alone is a well-known illustration of the fact that such injuries are very transient. It has already been stated that the case is far different when the tumor contains blood. Even when it is merely a tumor of the scalp with no effusion under the pericranium or within the skull, its disappearance may be a matter of weeks.

Most of the cases of facial paralysis are transient, the nerve being restored to its normal condition and resuming its function upon the muscles. Even the deep depressions of the skull are obliterated in most cases, and the evidences of injury which accompanied them are gradually outgrown. In five cases reported by Depaul in which the cranial bones were depressed, the depression disappeared in all cases, all the patients recovering. In five of the cases which were analyzed in connection with this paper there were no bad results.

The question of treatment in this class of injuries is not without importance and it is one to which comparatively little attention has been paid. It is probable that life might be saved in many cases in which the injury is overlooked or in which its seriousness is underestimated. There are also cases in which a judicious line of treatment might prevent lifelong illness, hopeless idiocy, or imbecility. In every case in which the labor has been severe or protracted the cranium should be carefully examined to detect a possible fissure, fracture or depression of the bone. Any treatment which may be necessary should be instituted as soon as possible after birth—within the first few days of life if the condition of the patient will warrant it. Three cases are recorded among those which have been analyzed in which the scalp was incised, the depressed bone elevated and the patients' lives saved. In a fourth case the bone was trephined and elevated, a cure also resulting.

The principle seems to be a sound one that

these injuries are to be treated as nearly as possible as they would be treated at later periods of life, the same regard being paid to detail as would be proper and successful at any period of life.

The following brief conclusions were drawn from the study of more than 60 cases in which the skull was injured in the process of birth:

Indentations and depressions of bone showed 2 of the right frontal, 16 of the left; 5 of the right parietal, 9 of the left; 1 of the right temporal; 1 of the occipital and left parietal. The depressions varied from ½ inch to 2 inches long, ½ inch to 1½ inches deep, and ¾ inch to 1¾ wide. The marks and depressions disappeared in most cases in a few weeks or months, but in some cases they remained visible for years.

In 17 cases there were fractures of one or more bones. In 1 case there were extensive dislocations of cranial and facial bones. In 5 cases the bones were fissured. In 5 cases the scalp was more or less extensively lacerated. In 5 cases the brain was injured. In 4 cases there were injuries during fetal life.

There were 21 forceps deliveries, 3 high forceps, and 3 versions. There were 12 normal deliveries, and 7 labors were prolonged, the period varying between fifteen hours and six days. There were 3 precipitate labors. There were 6 cases in which there was tumor of the scalp. In 23 cases there was hemorrhage of one variety or another.

Of the abnormal presentations 2 were breech, 1 face, 1 face, arms, and cord, 2 occiput posterior. There were 5 cases in which there was coma and 6 of convulsions, 4 of paralysis, 1 of idiocy. In 24 cases there was deformity of the pelvis of one kind or another.

Death occurred in 26 cases from various causes. In 3 cases the scalp was incised and the bone elevated and in 1 there was trephining and elevation.

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Typhoid Epidemic at Homestead.—More than 150 cases of typhoid fever are now in progress at Homestead, Penn. A special meeting of the Board of Health has been called to meet the alarming situation. Impure water is said to be responsible for the outbreak.

THE STATE OF THE GASTRIC SECRETIONS IN CHRONIC RHEUMATISM AND RHEUMATOID ARTHRITIS.*

BY FRANK H. MURDOCH, M.D.,
OF PITTSBURG, PA.

VERY little has been written regarding the state of the gastric secretions in chronic rheumatism and rheumatoid arthritis.

Bouchard[1] has seen swelling of the finger-joints associated with dilatation of the stomach, and Ewald[2] has observed numerous examples of gastric disturbance in patients with chronic articular rheumatism in which the dyspepsia was so marked that the pains in the joints were comparatively insignificant. Neither of these authors, however, make any mention of the result of an analysis of the stomach-contents. Einhorn[3] examined the stomach-contents of a patient suffering from rheumatoid arthritis and found achylia gastrica. In view of these facts, I trust that the report of the following cases may be of interest.

Case I.—On December 4, 1896, Miss McC., aged forty years, came to me complaining that for a year past she had been greatly troubled with insomnia, many nights being able to sleep only one or two hours. She also suffered from almost constant nervous belching, which practically confined her to the house. She looked pale and thin, had no appetite, and was altogether in a very miserable condition.

A physical examination revealed nothing wrong, excepting that the second joints of the first three fingers of the right hand were swollen and painful on motion. Examination of the stomach-contents made at intervals during a period of eight months showed sometimes an absence of free hydrochloric acid and at other times an excess of it, as follows:

Date.	Günzburg's Test.	Töpfer's Test.	Total Acidity.
Dec. 20, 1896	±	16	36
Jan. 10, 1897	+	52	66
Jan. 18, 1897	0	0	30
Mch. 6, 1897	+	16	65
Mch. 28, 1897	+	20	75
Apl. 16, 1897	+	18	74
May 13, 1897	+	15	74
Jun. 8, 1897	+	40	64
Jul. 6, 1897	0	±	16
Jul. 13, 1897	±	22	30
Jul. 20, 1897	+	24	44

This patient was given a diet to suit the changing condition of the gastric secretions, and had intragastric faradization and galvanization three times a week for some months. She made a complete recovery, and the swelling and pain in the finger-joints disappeared.

Case II.—February 1, 1897, Mrs. B., aged forty-two years, had been complaining at intervals for fifteen years of vertigo, bloating and belching, nausea, vomiting and insomnia. For two or three years past she had suffered greatly from pains in her arms and legs; and the first

*Read by title at the annual meeting of the American Gastro-enterological Association, Washington, D. C., May 1, 1901.

joint of the left forefinger was swollen and tender. Eight examinations of the stomach-contents were made during a period of ten months. Free hydrochloric acid was absent three times, normal twice, once in excess, and twice present in less than normal amount.

Date.	Günzberg's Test.	Töpfer's Test.	Total Acidity.
Jun. 18, 1897.....	+	26	58
Aug. 3, 1897.....	0	10	42
Sept. 8, 1897.....	0	10	52
Sept. 28, 1897.....	+	32	66
Oct. 30, 1897.....	+	40	64
Jan. 8, 1898.....	+	24	36
Jan. 13, 1898.....	0	0	20
Feb. 1, 1898.....	+	32	52

The treatment of this case consisted in a proper diet, and intragastric faradization used for several months. She made a good recovery, and the swelling and tenderness of the finger-joint entirely disappeared.

Case III.—June 12, 1899, Mrs. C., aged fifty-five years. For several years she had suffered from rheumatic pains in the middle joints of the fingers of the right hand, in the right wrist, and in her hips and knees. A month ago, one day after dinner, she became suddenly ill and was obliged to lie down. She had much distress in the stomach, with bloating and belching, and her hands and feet grew cold. She remained in bed two weeks, and is now very weak and has no appetite. Physical examination showed the chest intact, liver normal, stomach reaching two inches below the navel. The middle joints of all the fingers of the right hand are swollen and tender. From June 12, 1899, to December 22, 1900, a period of about eighteen months, six examinations of the stomach-contents were made. Twice free hydrochloric acid was absent, once it was in excess, and three times slightly below the normal.

Date.	Günzburg's Test.	Töpfer's Test.	Total Acidity.
Jun. 12, 1899.....	+	24	64
Jun. 23, 1899.....	0	8	64
Jun. 7, 1900.....	+	28	64
Jun. 26, 1900.....	+	48	68
Sept. 26, 1900.....	0	0	44
Dec. 22, 1900.....	+	28	56

On June 26, 1900, the pain and swelling had disappeared from the fingers of the right hand, but she had pain in the first joint of the little finger of the left hand and the joint was red and swollen. On September 26, 1900, the pain and swelling had disappeared from this joint also, and when I last saw her on December 22d, there had been no return of the rheumatism, and she was enjoying good health.

Case IV.—March 16, 1900, Miss F., aged twenty-four years, had complained for two years of being very nervous; often weeps without any apparent cause, her hair is very brittle, and is a foot and a half shorter than formerly on account of its breaking off. Has acne vulgaris on nose and chin; at times long red welts appear on different parts of her body, which last half an hour, and which burn and itch terribly. She had been constipated all her life, her bowels never moving without an enema. She often had severe pain in the right shoulder, which keeps her awake; and also pains at times in her fingers. Physical examination showed the chest intact, liver normal, stomach not displaced; all the second joints of the fingers of the right hand are enlarged, but not red or tender.

During March and April, 1900, I made three examinations of the stomach-contents, and found free hydrochloric acid in excess twice and below normal once, as follows:

Date.	Günzburg's Test	Töpfer's Test	Total Acidity.
Mar. 16, 1900.....	+	20	36
Apl. 5, 1900.....	+	36	56
Apl. 16, 1900.....	+	40	68

On March 31st, she came to my office complaining of pain in her right shoulder, which had kept her awake all night and from which she was still suffering. Intragastric faradization relieved the pain for two hours. Next day the same treatment relieved the pain for one hour. I then gave her ten grains of salophen every two hours, and the next day the pain had disappeared. I heard from this patient last week. She writes: "My rheumatism is almost gone. I have occasional attacks of it just as I have of indigestion. My finger-joints are still swollen, though no longer sore or tender." From this statement I take it that her rheumatism only troubles her when she is indiscreet in the matter of food or drink.

Case V.—September 3, 1900, Miss S., aged twenty-two years, had complained at intervals for four years of pain in her joints, mostly the large joints and especially the hips, although even the joints of her fingers have been affected, being tender at times to the touch. During the autumn of 1896 her ankle-joints became swollen, the swelling lasting two or three months. In January, 1897, she went to Hot Springs, Arkansas, and remained two months, which benefited her greatly, so that she was quite comfortable until the winter of 1900, when she had another attack which confined her to her room for three months. She could walk on a level surface, but could not go up or down stairs on account of severe pain in the hips and knees. On sitting down there was cracking of the hip and knee-joints which caused sharp pain and which was distinctly audible to any one in the room. During these attacks there was no fever, and no swelling. In March, 1900, she went to Hot Springs a second time and remained two and a half months. After being there a week or two, she could walk very well and go up or down stairs without suffering pain. During these attacks she always noticed that the pain was much worse immediately after eating. For this reason she was afraid to eat, and often left the table in the middle of a meal on account of the increased severity of the pain.

There is now no pain or swelling in the joints, but her heels are so tender that she walks with difficulty. Her appetite is variable, her bowels regular, and she sleeps well. A physical examination revealed nothing abnormal. The stomach-contents showed free hydrochloric acid 40, total acidity 60. On October 4th, I made a second examination which gave the same result as the first. For a few days in October and for about a week in November she had some pain in her hips, but she was not confined to the house and did not take any medicine for its relief. In January and early in February she had pain in her hips, which was promptly relieved by a few ten-grain doses of salophen. On February 22d, she had another attack of pain in her hips, which the salophen failed to relieve, but which was quickly relieved by methacetine. During October, November and December, this patient had intragastric faradization three times a week. She gained eight pounds in weight during that time and since February has been entirely free from rheumatic pains. On March 18th a third examination of the stomach-contents showed free hydrochloric acid + 32, with a total acidity of 60.

Results of the examinations of the stomach-contents were as follows:

Date.	Günzburg's Test.	Töpfer's Test.	Total Acidity.
Sept. 3, 1900.....	+	40	60
Oct. 1, 1900.....	+	40	60
Mch. 18, 1901.....	+	32	60

The last case I wish to report is one of rheumatoid arthritis.

Case VI.—This patient, Miss W., aged forty years, consulted me March 20, 1900. Her father and only brother were gouty and when nine years of age she had an attack of acute rheumatism. Her joint trouble began when she was twenty-one years of age, and now her left elbow is ankylosed and there is much deformity, especially of the metacarpo-phalangeal articulations of the thumb and first and second fingers of the right hand. She complains of frequent headaches, bloats and belches a great deal, and often induces vomiting to obtain relief. Her appetite is variable, her bowels constipated, and she sleeps badly. An examination of the stomach-contents showed an absence of free hydrochloric acid with a total acidity of 40. Rennet was present. I put her on a diet to suit the condition of the gastric secretions, and for a few weeks she felt much better; she then began to complain of bloating, belching and nausea.

On April 19th I made a second examination of the stomach-contents, at which time free hydrochloric acid was + 40, with a total acidity of 56. I have not seen the patient since I made this examination and do not know the subsequent history of her case.

In regard to the prognosis in chronic rheumatism, Osler[4] states that it is unfavorable, that it is a disease which persists indefinitely, and that the majority of cases resist all methods of treatment. Smith[5] says it is impossible in chronic joint troubles to be certain that simple synovial rheumatism will not *clinically,* in the long run, assume the features of rheumatoid arthritis. In view of these facts it is interesting to notice that the cases just reported recovered from their rheumatism under treatment directed not against the affection of the joints, but under treatment directed against the existing dyspepsia, which in every instance was of nervous origin.

Much has been written on the subject of diet in chronic joint affections, but it is evident that in chronic rheumatism and rheumatoid arthritis a diet should be prescribed, not with a view of suiting the condition of the joints, but in each individual case the diet should be such as best to suit the existing state of the gastric secretions.

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515 Penn Avenue.

THE ADMINISTRATION OF ETHYL CHLORIDE AS A GENERAL ANESTHETIC, WITH DESCRIPTION OF A MASK FOR ITS USE.

BY MARTIN W. WARE, M.D.,
OF NEW YORK;
ATTENDING SURGEON TO THE GOOD SAMARITAN DISPENSARY.

IN an earlier article[1] I set forth in detail the development, history, field and experiences of ethyl chloride, therefore these remarks are intended to cover merely the points of practical importance in its administration.

Accounts of the use of this agent are invariably associated with references to various devices (the masks of Kurschman, Breuer, Schnuneman and Seitz) which had for a common object the economic use of ethyl chloride. Against all of these be it said that they were complicated and by their expense added materially to the cost of the administration of ethyl chloride.

The aim of all was at one and the same time to confine the very volatile vapors of ethyl chloride and yet encompass the essential feature of a due admixture of oxygen, relatively, air. The latter is absolutely essential, since the inhalation of pure ethyl chloride has been proven (Wood and Schleich) to cause death by respiratory paralysis. For this reason a few have seen fit to give ethyl chloride like chloroform on a mask.

This was my starting-point originally, and, while I found it possible to attain narcosis, if thus administered, from the economic standpoint of quantity and cost much was yet to be desired. The main object to accomplish was to shut off all entrance of air from extraneous parts of the mask; to this end I adapted the rubber mouth-piece of the laughing-gas apparatus, since this cone can be applied to the contour of the face,

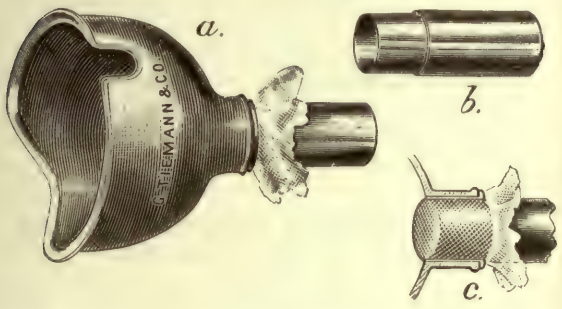
[1] Medical Record, April 6, 1901. "Field for Ethyl Chloride Narcosis."

so as to make an air-tight space about it; this feature, moreover, is common to all masks.

The ethyl chloride passes into the gaseous state so quickly that it ought to be applied at a point very close to the mouth. These main objects I believe to have attained in the mask here pictured and with which I have in 400 instances had 95 per cent. of successes. Of the failures, more hereafter.

The mask is prepared for use by stretching two layers of small-meshed gauze over the end of the tube *b*, which is then held taut by being forced into the neck *c* of the funnel-shaped rubber mouth-piece *a*. The gauze can be renewed at will and the whole apparatus, because of its simplicity, easily rendered sterile, a feature devoutly to be wished for in the laughing-gas mask and other kindred devices. The tube *b* is the channel along which the stream of ethyl chloride is directed against the gauze *c*, intended, not merely to receive the ethyl chloride, but also by impact to break it into still finer particles. At this point the ethyl chloride, evaporating, expands and is held by the walls of the mouth-piece *a* and the sides of the tube *b* which, therefore, act as a chamber to temporarily limit the vapors.

The entrance and exit of air are through one



orifice, so as to minimize the loss of ethyl chloride and merely utilize the quantity momentarily available for one or two respiratory acts. The stream is to be delivered intermittently from tubes provided with an automatic cut-off. The duration of the jet will have to be determined by personal experience. The stream of ethyl chloride issues from the tubes with capillary openings of variable size; therefore, if the stream be fine it escapes slower and the jet has to be sprayed somewhat longer. But it can be more easily controlled from a small opening than a large one, where the escape is so violent as to be wasteful. By an intermittent working of the automatic cut-off an approach to the drop method of chloroformization is attained and I believe this will be found more economical. After a few jets of ethyl chloride have been played on the gauze, a layer of hoar-frost will form, due to the freezing of watery vapor of expired air, but successive respirations again dispel it. This hoar-frost is not objectionable. In fact, with this mask it is a desirable feature, provided ethyl chloride is not given so rapidly as to form a veritable cake of ice, thus cutting off any air and furthermore preventing the liberation of ethyl chloride.

Ethyl chloride is not soluble in water. In the frost, therefore, it is enveloped ready for instant liberation with each respiratory effort. If the frost be too extensive a little remission in the spraying of ethyl chloride will allow it to be dissipated. An approach to this condition is often signaled by a hissing noise during respiration, and when wholly frosted the walls of the mask cave in owing to the suction of inspiration. At this stage the mask should be tilted to permit influx of air and spraying resumed as soon as this phenomena disappears. A trick that will readily dispel the frost consists in sharply blowing into the tube once or twice. It might occur to some that harm may accrue from the inhalation of air cooled in its passage over the frost, but practically this is no factor to be reckoned with. Most decidedly there is a loss by its expansion through the tube during expiration, and, again, there is a most liberal admixture of air during inspiration; yet, administered thus, far less ethyl chloride is efficiently used than in masks of other construction where the chamber for the reception of it is far removed from the mouth and the ethyl chloride administered in a wasteful fashion by spraying on a relatively large quantity at one time. Administered in the latter fashion narcosis can be effected, but we are not in the position to say what quantity of anesthetic actually was responsible for the narcosis. Furthermore, it is dangerous, and therefore wrong, to give the ethyl chloride in a too-concentrated form; finally, this is a wasteful employment of an expensive agent. The ethyl chloride vapor should at the instant of its delivery have free access to the mouth and nose; hence the interposition of a valve, which requires an inspiratory effort to regulate the influx of air, is uncertain and tardy. Likewise, an outlet guarded by a valve for expired air by a route other than the inlet is superfluous, since the latter, being minus a valve, would permit an escape of air by this channel just as readily.

My early trials with the modified laughing-gas mask taught me these points practically, hence the mask pictured is reduced to its simplest form. The rubber mouth-piece, if too large for the features of children, can none the less be adapted by letting the lower end embrace the submental region. For the more fastidious a separate mouth-piece can be had.

Like the other anesthetics, ethyl chloride is seen at its best when administered to children and to young adults, and I therefore counsel those who would acquire a proficiency in its administration to gather their early experience with such subjects. The anesthetic is so fugacious that the tendency of the patient is ever to come out; consequently, we are not likely to err in overdosing and the danger of a cumulative effect is far removed.

The necessity of a pure product is obvious, since many of the products hitherto employed for local anesthesia under the title of ethyl choride are in reality methylated-ethyl chlorides and,

if employed, will fail to be satisfactory if they do not prove dangerous. A pure ethyl chloride is expensive, but less so than laughing-gas, with with which it is henceforth to compete, at least in the hands of the general practitioner. Minor surgery is its field. Relaxation can be obtained always in children and young adults; alcoholics resist unless a preliminary hypodermic injection of morphine be given. Neurotics and highly excited patients, while they may be rendered wholly narcotic, do not become fully relaxed, although sufficiently so for the operation to be performed. Robust individuals make such a demand on the quantity of ethyl chloride that for economic reasons it will not be popular here, though it is possible to render them completely relaxed.

The best conception of the sphere of usefulness of ethyl chloride can be pictured by comparing it with laughing-gas. Rigidity, cyanosis and increased hemorrhage are constant accompaniments of laughing-gas; as for ethyl chloride, while rigidity may exist in a small percentage, cyanosis never occurs. In addition great advantages are its portability and the fact that it requires no expensive apparatus for its administration.

While I have not encountered in 400 applications alarming symptoms in a single instance, I would not have the impression prevail that success will attend every administration. I will put the failures down for the present at 5 per cent. These failures are characterized (1) by a prolonged period of excitation, it being impossible owing to the fugacious character of ethyl chloride to produce the paralytic effect on the cortical centers; (2) although the patient is seemingly narcotic, any painful manipulation causes muscular rigidity as the expression of increased reflex excitability and this interferes with any finer manipulations. In this connection it is opportune to mention that on some occasions it is obvious that the patient presents no signs of being anesthetized other than a blunting of cutaneous sensory perception, yet, on awakening from the dazed condition, the patient will confirm the observation of freedom from any pain during the manipulations. In other instances, while in a like state of preliminary narcosis, neurotics, who, I take it, always constitute the subjects, can be put into a cataleptic condition.

These peculiar phenomena were first observed by dentists who noticed that, after prolonged spraying of ethyl chloride on the gums to affect local anesthesia, patients often became drowsy and extraction was painless. Awakening following instantly after the remission of the ethyl chloride, this condition was not inaptly termed "suggested narcosis," or a state of "soporosis."

My trust in ethyl chloride may be thus summed up: After a use of 400 laughing-gas anesthesias in dispensary practice, I have naught but good to report for it, and if at this hour I have abandoned it for ethyl chloride it is for the following material reasons, which I feel certain must be shared by the general practitioner at large, whose lot it is to do the greater number of minor operations. (1) The primary outlay of a laughing-gas apparatus is tolerably expensive; (2) the cylinders of gas are not provided with a reliable nor suitable device to indicate the contents at any moment, thus necessitating a duplicate cylinder; (3) the cost of gas is rather high, and (4) the whole outfit is very bulky and weighty. Diametrically opposed to this is the ethyl chloride, which is marketable at a lower price than laughing-gas, in vials of 50 c.c., which can be carried about in the pocket; where five operations of a like character may be performed with ethyl chloride, but three can be done with laughing-gas.

In conclusion, I wish to emphasize the fact that this agent is only of service in minor operations and as a preliminary to cut short the agonies of the early stages peculiar to chloroform and ether. The competition that obtains amongst the numerous anesthetics I interpret, not as an index of the inefficiencies of one and all, to be replaced at some future day by a much wrongly hinted at "universal anesthetic," but rather a strife for the finer adjustment of each to its peculiar field. So I venture to predict that the intelligent application of ethyl chloride will prove a useful and grateful agent in minor surgery, at any rate in the hands of the general practitioner, largely supplanting laughing-gas, which might have the foremost place were it not for the deterrent factors thoroughly familiar to us all.

1198 Lexington Avenue.

THE THERAPEUTIC USES OF TRI-CHLOR-TERTIARY-BUTYL-ALCOHOL.[1]

BY E. M. HOUGHTON, PH.C., M.D.,
OF DETROIT;
LECTURER ON EXPERIMENTAL PHARMACOLOGY, DETROIT COLLEGE OF MEDICINE.

NEARLY two years have elapsed since Dr. Aldrich and myself, in a paper published in the *Journal of the American Medical Association* (Sept. 23, 1899), proposed the use of tri-chlor-tertiary-butyl-alcohol as a therapeutic agent. As will appear in subsequent quotations from this paper, which was based on the results of many months of laboratory work and considerable clinical experience, we were careful not to make dogmatic statements relative to its practical value, prefering to point out in a general way its probable field of usefulness and leave the medical profession at large to render the final verdict. I shall endeavor at this time to briefly review the therapeutic literature of the subject and offer some additional suggestions, hoping the subject will elicit free discussion.

Tri-chlor-tertiary-butyl-alcohol, as most of you are aware, is a definite chemical substance of the formula $C\,Cl_3—C(CH_3)_3—OH$ $C_4\,H_7\,O\,Cl_3$. It is a condensation product of chloroform and acetone,

[1] Read before American Therapeutic Society, May, 1901.

occurring as a white, volatile, crystalline substance, possessing a camphoraceous odor and taste. It is very soluble in acetone, alcohol, chloroform, ether, benzine, glacial acetic acid, etc. Less soluble in oils, fats, etc., and sparingly soluble in water, about 1 per cent. at body temperature.

Since this drug belongs to the fatty acid series, we would expect its pharmacologic action to conform in a general way to that of the other members of the group. This supposition is well borne out in many respects by the results obtained in the laboratory and at the bedside. The pharmacologic action of the drug is most pronounced in three directions, viz., as a local anesthetic, antiseptic, and hypnotic, or, if given in extremely large doses, a general anesthetic.

In our first paper we made the following statements: "It is too early to prophesy what position 'the drug' will take in medicine, but the results as a hypnotic and local anesthetic are very encouraging. Culture experiments with various kinds of bacteria also prove that it possesses considerable antiseptic properties," consequently "it may be used independently as a surgical disinfectant." "Possibly the drug will prove to be a useful general anesthetic when administered in large doses; or it may be given before chloroform or ether, and allow complete anesthesia to be produced by the use of a minimum amount of chloroform or ether. Perhaps such administration may prevent the annoying vomiting that so frequently occurs when a patient is being anesthetized."

It has been extremely interesting to follow the clinical reports and compare them with these early suggestions. It will probably be best to discuss the therapeutic uses of the drug under several heads.

Anesthetic Action.—That the drug possesses considerable local anesthetic properties may be demonstrated in various ways in the laboratory. If we infiltrate an animal's ear with a saturated aqueous or normal salt solution of the drug, bits of the ear may be snipped off with shears, without having any symptoms of pain exhibited by the animal. This test is open to objection as normal saline or other indifferent fluids when injected produce a certain amount of pressure anesthesia, still it can be recognized that the degree of anesthesia following the exhibition of the drug is considerably greater than that produced by the saline. Perhaps a better method of showing the local anesthetic action is the following: Inject into the abdominal lymph-sacs of three frogs small quantities of strychnine, just enough to increase the excitability of the spinal cord, so that the slightest external stimulus will bring on a general tetanic spasm. Quickly immerse one of the frogs in the aqueous solution of the drug, partially immerse the second frog in the same solution, and reserve the third as a control. Place the frogs on the table and lightly touch different parts of the body with a feather. The first frog remains quiet no matter where the stimulus be applied, while the third frog when subjected to the same treatment goes off into a tetanic spasm. The second frog, oddly enough, remains quiet when the stimulus is applied to that part of his skin coming in contact with the drug, but has a general tetanic spasm when some other part is stimulated. Indeed, by careful manipulation one can determine to a nicety the line separating the anesthetized and unanesthetized portions of the skin. Application of the drug to the tongue produces a numbing effect similar to but less in degree than cocaine, owing to the difference in the solubility. Considerable care must be exercised in making an aqueous or normal saline solution of the drug on account of its slight solubility in water.

Some writers, especially dentists, have reported the use of saturated 15 per-cent. alcoholic solutions of the drug, but quite a number of cases of sloughing have followed such injections, which may be attributed to the alcohol, since in a series of dogs having their gums injected with 15 per-cent. alcohol, alone, swelling and abscesses have sometimes resulted. As dogs are much less liable to infection than human beings, it seems to be quite likely that adverse results must follow very frequently from the use of such injections, especially when the tissues are of subnormal vitality as is often the case. In special cases, as for the killing and extracting of the nerve from decayed teeth where no harm can result from the destruction of tissue, strong alcoholic, ethereal or other solutions may be employed, but such cases are rare. One may employ almost any quantity of the saturated aqueous or salt solutions without danger of untoward results from the absorption of the drug. For incising a carbuncle boil on the back of a man's neck, I employed something over one ounce of such solution for infiltrating the field of operation.

During the past few years numerous cases of conjunctivitis, due to getting podophyllin, corrosive sublimate, etc., in the eyes have come under my observation. In well-marked cases of this kind the pain is most excruciating. Formerly I relied upon cocaine and cold or hot applications to afford relief; then I commenced using this drug in place of the cocaine and more recently have employed it in combination with the astringent properties of the suprarenal gland with very satisfactory results. Since we have found that dogs do not vomit readily when mustard is given *per os,* if the drug is administered previously, we suggested that the nausea and vomiting occurring at the same time or following the use of chloroform or ether might be prevented or greatly lessened by its administration. Hirshman and Stone, acting on this suggestion, have each reported a series of cases in which it was employed before operation with much satisfaction.

Numerous cases of chronic alcoholism have been reported in which the drug was employed, usually with success, to allay the gastric irritation in order to allow the patient to retain nour-

ishment. A few cases of gastric carcinoma accompanied with pain and vomiting have been relieved. However, in some cases it has not been of benefit, possibly because the drug did not penetrate the diseased tissue. Seemingly the drug has been of value in checking the vomiting of pregnancy and seasickness. I am inclined to believe that the benefit obtained from the drug in these and other cases of gastric irritation is due in part to the local anesthesia action and in part to depression of the central nervous system. This view is borne out by the fact that less chloroform and ether are required to produce anesthesia when the drug is previously administered. Observations of a few cases of gastro-intestinal irritation, due to bacterial activity, especially in small children, lead me to believe it may be of some service, on account of its antiseptic properties.

Antiseptic Action.—Since organic fluids, as preparations of the suprarenal gland, undergo putrefaction, and cultures of bacteria are killed by the drug, while ciliated epithelia and spermatozoa remain active for hours, when bathed with saturated aqueous solution, it was decided to test its value as an antiseptic in place of iodoform, etc., as a surgical dressing, believing that it would be an advantage to have the combined action of a local anesthetic and an antiseptic for most surgical purposes, and especially as the drug when absorbed lessens the nervous excitability. Numerous reports indicate that these expectations were justified, especially have good results been obtained in minor surgery. Dewar reports a case of extensive laceration of the arm, a cog-wheel injury, where the local anesthesia action from the application of saturated aqueous solution of the drug sufficed to allow the placing of thirty sutures without pain. Crystals of the drug were then sprinkled over the injured member, and gauze prepared from the same applied; contrary to expectation no further pain was experienced and the wounds healed by first intention without sloughing.

Moore reports a similar case: Woman attacked by a bull-dog. Several lacerations of leg extending from knee to ankle. Some of the muscles had been severed and torn from their positions and shreds of tissue were hanging from the wounds. The patient was suffering from shock and refused to take an anesthetic. "The wounds were cleansed with hot 1-1,000 bichloride. A hot saturated solution of the drug (tri-chlor-tertiary-butyl-alcohol) was applied, five minutes later the wounds were closed with eighteen sutures; wherever there had been a thorough application of the solution not a particle of pain was experienced from the passage of the needle." The wounds healed completely without suppuration.

Siter, in concluding a recent paper reporting a series of 32 cases representing a great variety of surgical conditions, makes the following statement:

"The use of 'the drug' in dusting powders for painful granulation wounds has been wonderfully successful as far as analgesia is concerned. It does not seem to delay union nor granulation. and it can be used in combination with almost any dusting powder. In the cases outlined below it was used with boric acid. It cannot be said, however, to hasten granulation, and, as far as I have observed, all it does is to mitigate or entirely allay pain in the majority of cases. This, after all, is a good deal gained for the patient and the physician. The drug, I think, has a great future, at least in minor surgery, as an analgesic dressing. I cannot see why it should not be successful in major surgery when it may be prudent at all to use a dusting powder."

I have employed the drug in a large number of accident cases to allay the pain produced by the injury and subsequent treatment, and as an antiseptic dressing in most cases to the satisfaction of the patient and myself. Nearly always after the injured member has been plunged in the aqueous solution of the drug for a few moments, the patient has remarked: "It don't hurt any more." In a few cases where the injury has been mainly due to bruising of the parts, rather than to incision or laceration, since a solution of this drug like other drugs does not readily penetrate the skin, no effect was apparent. As an antiseptic dressing, it has proved fully as efficient, whether applied in powder or upon gauze, as iodoform, and without complaints of the disagreeable odor that so generally prevail when the latter is employed. In a few cases where the injury has been extensive, and the chance of absorption proportionately great, the patients have stated of their own accord that they felt very sleepy, and one complained of dizziness, probably from the central action of the drug absorbed. Numerous cases of burns have come under my observation, likewise several cases have been reported, where the drug was applied in combination with an oil or fat with good results. Perhaps lanolin has been the best vehicle for this purpose, as it penetrates the skin more readily than the others.

At my suggestion several army surgeons are testing the merits of the drug as a surgical dressing in the field. It may prove to be of much service as a "first aid" antiseptic when put up in easily-opened, tightly-sealed containers to prevent volatilization. As there is no danger of toxic results from absorption even when the crystals are employed, wound asepsis is promoted by its antiseptic action, pain lessened by its local anesthetic properties, and the central nervous system is quieted by its hypnotic influence after absorption.

In cases where a stronger degree of local anesthesia is desired than is produced by a saturated aqueous solution, cocaine may be added in any amount desired. Indeed, on account of the antiseptic action of the drug, cocaine solutions may be rendered sterile and kept on hand always ready for instant use. One case of successful spinal anesthesia produced by the drug has been reported; however, since several unsuccessful attempts have been called to my attention, and,

moreover, since I have not been able to obtain positive results in the laboratory, I am inclined to doubt its efficiency for this purpose. The combined fluid has been employed by several surgeons with entire satisfaction. In a series of experiments I am conducting at present, animals receiving considerably more than a fatal dose of cocaine can be saved by injecting at the same time a saturated normal saline solution of the drug. This might be expected since cocaine, when absorbed, *stimulates* the central nervous system, while the other *depresses*.

In solution or combined with oils, vaseline, cacao-butter, etc., the drug has been applied with more or less success to the rectum and genito-urinary tract as an obtundent or antiseptic, or both. It seems to me quite probable that it may prove to be of considerable value in various conditions affecting these parts and especially as a douche in cystitis and various gynecological affections, not only on account of its local anesthesia and antiseptic properties, but because it does not coagulate albumins, thus allowing permeation of the tissues, nor harm animal cells.

As a Hypnotic.—Before discussing the hypnotic action of the drug, I desire to quote from a paper which was read before the American Physiological Society (Dec. 29, 1899), by Dr. Aldrich and myself, and which gives a brief summary of the more important effects produced by the drug after absorption. "If crystals of the drug be administered to animals *per os* or *per rectum*, if a solution be given *per os, per rectum*, subcutaneously, intravenously, intra-abdominally, or if the animal be confined in a tight box and compelled to inhale air saturated with its vapors, all degrees of hypnosis to complete anesthesia are produced, lasting from a few hours to several days depending on the amount of the substance entering the system, the animal finally recovering in excellent condition if the dose be not too large. However, when an extremely large quantity of the drug is administered, the animal remains completely insensible for several days, the respiration becomes slower and weaker, finally ceasing altogether, the heart, however, continuing to beat for some time after.

"The drug is quickly absorbed from the alimentary tract, especially when in solution, and can readily be obtained from the blood in crystalline form. The spectroscope fails to show any effect of the drug as hemoglobin in the test-tube or in the animal body. The pulse-rate is slightly lessened, but the action of the heart under the influence of the drug remains excellent until the organism begins to suffer from a lack of oxygen. Frogs are very quickly overcome by the action of the drug when it is applied externally, in vapor or liquid form. The local application of aqueous solutions of the drug to the laid-bare frog's heart produces slowing of the rate and a more complete contraction of the organ—reminding one of a digitalis heart.

"Kymographic tracings, taken from the carotid artery of dogs, show that the blood-pressure usually remains unaffected, in several instances the pressure being a little higher at the end of an experiment occupying six hours than at the beginning. The amplitude of the contractions of the ventricle as recorded by the myocardiograph likewise remains unchanged for many hours. Quite large quantities of the drug can be obtained from the brain substance after as much of the blood is removed as possible, by allowing normal saline solution to flow under pressure through the carotid artery and out of the jugular vein.

"We would naturally expect, since the drug is volatile even at ordinary temperatures, and since it circulates in the blood, that it would be eliminated by the lungs. Carefully conducted experiments thus far have failed, however, to detect it in the expired air. In any case, it must be eliminated in very small quantity. The chlorides in the urine of a dog fed on a fixed diet are markedly increased after the administration of the drug. . . . If the administration is kept up for some weeks, small amounts of the drug also appear in the urine. It seems probable that the drug is decomposed or burned down in the body. This view would accord best with the facts we have already observed."

From these statements it will appear that the drug after absorption produces results similar to those which follow the internal administration of the other chlorine derivatives of the alcohol series. However, in some respects, it differs very materially from its relatives. The action is more prolonged, it almost never produces gastric disturbances, and does not depress the circulatory system to the same extent as many of them do.

Rudolf has contended that since the drug produces considerable lowering of temperature in animals, when administered in doses several times larger than are recommended for therapeutic purposes, harmful results are likely to occur. In his experiments the temperature of the room was kept at 55° to 65° F., which produces a greater fall than would have otherwise occurred. Artificial heat prevents too great fall of temperature, the same as with chloral. Indian cannabis is one of the lest harmful of drugs, since, from an extensive search of the literature, I am unable to find a fatal case of acute poisoning recorded. Often in animals I have found the rectal temperature 10° to 12° below normal after giving Indian cannabis, yet the animals would make an excellent recovery in a very short time.

Donald, in describing a case where an overdose of the drug had been taken, says in conclusion: "That the drug is a hypnotic, five or six days' sleep from the administration of the drug will testify; that it is a safe hypnotic this period of sleep from the use of 120 grains of the drug, with no bad nor untoward effects, should be ample evidence."

West, in reporting another case, says: "I discovered that not less than 165 grains of the drug had been given to the patient between the hours

of 3.30 p. m. and 5.00 a. m., a period of thirteen and one-half hours. His pulse, however, was strong and regular, and running about 90 a minute. The respirations were deep, regular, and slightly accelerated, but never above 22. On the third day thereafter the pulse-rate rose to 100, which I believe was due to deficient nourishment. The principal effect of the drug was complete, general anesthesia, which lasted for one day, after which it gradually abated, the patient being restored to his normal condition on the fourth day. My only treatment consisted of hypodermatic injections of strychnine sulphate in $^1/_{25}$-grain doses."

These cases certainly refute Rudolf's contention and show that the exhibition of the drug in hypnotic doses is practically devoid of danger and indicate the possibility of employing it as a general anesthetic, but such a step should not be taken until after much more extended laboratory and clinical observations have been made; methods of feeding and nursing must be devised, and even then, since the anesthesia is so prolonged, we should hesitate about employing it. A number of physicians reported an entire absence of hypnotic action where the drug has been prescribed in 10- to 20-grain doses, to relieve extreme pain, but all of the members of the fatty acid series are open to the same objection. In these cases we still have to rely upon morphine. Hare, Stevens, and others generally have found it an efficacious hypnotic in chronic Bright's disease, with or without accompanying cardiac complications, except in those cases where precordial pain was a prominent symptom. In tuberculosis, it has frequently been found valuable, but sometimes fails to produce the desired results, likewise in typhoid fever the testimony is variable. It has been suggested as a useful remedy in asthma and whooping-cough, and several cases have been treated with benefit. Epileptic attacks are sometimes lessened in frequency and severity; whether the effect is palliative or curative remains to be seen.

Baumeister has described a case of traumatic tetanus which he satisfactorily treated with the drug. It would seem that the prolonged action of the drug would render it the most valuable remedy in the alcohol series for this disease.

Wade has reported 18 cases in which he has employed the drug as a chemical restraint for the insane, giving it in 15- to 60-grain doses, an average of 35 grains, and summarizes his results as follows: "It is most valuable and serviceable in the motor excitement of acute maniacal attacks of agitated melancholia. It could very probably be used with benefit in the motor excitement of general paresis. The fact that it does not depress the heart action ensures for the drug special consideration in all cases of acute insanity with restlessness where it is necessary to preserve all the vital forces to tide the patient over the attack and prevent death from exhaustion. It is more agreeable to take than paraldehyde and does not leave bad after-effects.

From several letters and oral reports I have received, from physicians employing the drug in insane asylums, it would appear that it cannot be employed with entire safety in the motor excitement of general paresis. However, it may be that this is one of the limitations of the drug, but the number of cases reported is too small to draw positive conclusions, although the other types of insanity with motor excitement appear generally to be benefited.

Stone has just reported having employed the drug as an ante-operative hypnotic in doses of 5 to 20 grains in 4 cases with a great lessening of unsatisfactory after-results; in 5 cases he gave the drug internally, before producing spinal anesthesia with a solution containing 1 per cent. cocaine and .8 per cent. of the drug. He contrasts the results in these five cases with 200 previous cases of spinal anesthesia in which he did not use it, and claims that the post-operative symptoms were much less pronounced than usual. Since animals can be readily anesthetized by inhalation of vapors of the drug, it seems to me quite probable that by means of a suitable inhaler it might be advantageously applied as a hypnotic in this way.

Most observers comment on the lack of after-effects following the internal use of the drug. Occasionally where it has been taken late at night some dulness and, in a few cases, dizziness have been observed. Many specific cases might be cited and other suggestions offered, but this paper is already longer than I intended, and I will refer those especially interested in the subject to the bibliography attached, which I have endeavored to bring up to date.

From what has already been said relative to the therapeutic uses of this drug, I believe that we are warranted in drawing the conclusion that, owing to its moderate antiseptic, local anesthetic and hypnotic properties, its apparent harmlessness to animal tissues when brought into direct contact with them by local application or when absorbed and distributed to various parts of the body by the circulatory system, it bids fair to demonstrate for itself a wide field of usefulness. Our experience, both laboratory and clinical, is too limited to warrant our drawing too positive conclusions relative to its limitations for clinical purposes. One of the most important points to be determined is the question of dosage. Like all other drugs used in medicine, its therapeutic limitations must be worked out.

Mastitis.—The Sloane Maternity Hospital treatment for mastitis is to put the patient to bed on a dry diet, give a dose of magnesium sulphate which is considered better than Rochelle salts, and stop the baby's nursing. An ice-bag is applied, and the breasts are massaged, and then emptied with a breast-pump every two hours. The bowels must be kept freely open.

BELLADONNA VS. SCOPOLIA.

BY REYNOLD WEBB WILCOX, M.D., LL.D.,
OF NEW YORK;
PROFESSOR OF MEDICINE AND THERAPEUTICS AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; PHYSICIAN TO ST. MARK'S HOSPITAL.

IN a recent paper on this subject[1] I reached the conclusion that scopolia rhizome as fluid-extract incorporated into a liniment is devoid of therapeutic action and should not be substituted for belladonna root; on the contrary, belladonna root under similar conditions produced rise of temperature, pulse and respiratory rate, difficult respiration, flushing of the face, reddened mucosæ, dry tongue and thirst, headache, drowsiness and dilatation of pupils—these symptoms becoming more marked as the amount of the liniment was increased and left no doubt as to the activity of the preparation.

In order to determine if the camphor in the liniment interfered with the production of symptoms from the use of scopolia liniment, a new series of observations was commenced which is the basis of this report.

The same method of procedure was adopted as was employed for the first series of experiments. A quantity of the fluid-extract (noted in each experiment) was taken and, after the temperature, pulse and respiration had been recorded, this was rubbed into the inner surface of the forearm until the skin became again dry. Records were made at the end of sixty minutes unless otherwise specified, the first being made immediately before using. Both the belladonna and scopolia fluid-extracts were made up to the assayed strength of .55 per cent. total alkaloids.

The observations were as follows:

FLUID-EXTRACT "A."

No.	Amount.	T.	P.	R.
1.	30 minims	98.8°	84	20
		99.2°	88	20
2.	30 "	98.8°	76	22
		100°	88	24
3.	30 "	99.2°	96	22
		99.2°	98	22
4.	30 "	99°	88	18
		99°	88	26
5.	30 "	99°	88	22
		99.2°	94	22
6.	45 "	99.2°	84	22
		99.4°	88	24
7.	45 "	99°	84	22
		99.4°	88	22

FLUID-EXTRACT "B."

No.	Amount.	T.	P.	R.
1.	30 minims	98.2°	86	22
		98.8°	86	24
2.	30 "	98°	80	20
		98.2°	84	22
3.	30 "	98°	80	20
		98.4°	80	24
4.	30 "	98.6°	100	24
		98.8°	100	22
5.	30 "	98°	83	20
		97.8°	82	22
6.	45 "	97.6°	78	22
		98°	80	22
7.	45 "	98.6°	100	22
		98.4°	100	24

The net result is as follows:

	T.	P.	R.
"A."	+2.4°	+32	+4
"B."	+1.2°	+ 5	+10

Evidently "A" influenced temperature and pulse rate more than "B" while the latter increased the rate of respiration. Fluid-extract "A" was evidently made from belladonna root.

The results obtained show that, while the camphor did not interfere with the results so far as the scopolia rhizome fluid-extract was concerned, it certainly aided in the absorption of the active principles of belladonna root. This second series of experiments gives practically the same results as the first and the conclusion so far as concerns scopolia still obtains. Knowing that the effects of liniments and other external applications are considerably greater if vigorous friction on rubbing is employed, in all these observations this was insisted upon.

"The ratio of absorption with the use of an occlusive dressing," as Hallberg, in noticing my former paper, very properly suggests, "would be interesting," and to determine this experiments have been undertaken and carried out for several months. These will be reported at a later date and their results will, I trust, be of considerable importance in solving the debatable questions in regard to the efficacy of plasters. So far as this method of application—thorough inunctions—is concerned scopolia rhizome cannot be substituted for belladonna-root.

749 Madison Avenue.

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ULCER OF THE DUODENUM CONSIDERED FROM A SURGICAL STANDPOINT.[1]

BY D. S. FAIRCHILD, M.D.,
OF CLINTON, IOWA;
PROFESSOR OF SURGICAL PATHOLOGY, DRAKE UNIVERSITY.

THE treatment of ulcer of the duodenum will no doubt be considered from the standpoint of medicine alone for many years to come, except when perforation has taken place. Nevertheless the good results which have followed operations for ulcer of the stomach in certain cases encourage the belief that surgical means may be extended to like conditions in the duodenum.

In January of this year (1901), I was led to open the abdomen on the supposition that I had a case of intestinal obstruction to deal with, but discovered three perforations in the duodenum which had given rise to a peritonitis. The perforations were sutured, the abdomen thoroughly irrigated and closed with drainage. The patient died four hours later. The history of the case had been very misleading. I saw the patient in consultation the night previous to the operation and learned that she had been ill three weeks with apparently increasing obstruction of the colon near the sigmoid. The woman was fifty years old and had been in poor health for several years. At the time I saw her, the transverse and descending colon were greatly distended with gas which gave her great distress. Suspecting a

[1] Read before the Iowa State Medical Society, May 15, 16, 17, 1901.

malignant growth compressing the sigmoid, it was hoped that an iliac colostomy might afford temporary relief. Not being sure of my diagnosis, an incision was made in the left side, with the line of the umbilicus as a center—realizing that the usual incision for colostomy would not permit of a satisfactory exploration of the abdomen. Going upward I soon found intestinal contents slowly escaping from under the transverse colon. The incision was extended upward, the distended colon gently displaced and underneath escaping from three openings in the duodenum intestinal contents were seen. It at once became apparent that the perforations had at first been covered by the transverse colon and some adhesions had formed to protect the peritoneal cavity, but they had become inadequate for the purpose and a leakage had occurred attended by an extension of the peritonitis along the course of the colon with paralysis of the bowel.

The literature covering the surgical treatment of ulcer of the duodenum is very limited. Dr. Robert F. Weir of New York in his Presidential Address before the American Surgical Association was able to find 51 operated cases reported. These were all for duodenum perforations.

Several gastro-enterostomies have, however, been reported for symptoms of pyloric obstruction which on operation were found to be due to contraction of the duodenum from presumably healed or partially healed ulcers.

The difficulty in correctly diagnosing a duodenal ulcer is illustrated by the fact that of the 51 reported cases of perforation treated by operation the diagnosis was wrong 38 times, while only 13 were correctly or approximately correctly diagnosed. In 26 cases the ulcer was not found at the time of the operation, but afterward at the postmortem. The mistake was mostly made of diagnosing the cases as appendicitis, 18 times, acute peritonitis, 13 times, or intestinal obstruction, 5 times, as in my own case. The diagnosis based on the symptoms at the time of perforation is extremely difficult, or nearly impossible, but when the history of the case is taken into consideration much light is thrown upon it. In the great majority of cases the existence of gastric or dyspeptic symptoms will be found, but in a considerable number of the class of patients in which duodenum ulcers occur, the history will be obscure on account of failure to make close observations and of the lack of ability of the patient to describe with clearness the past symptoms. This was particularly true in my own case. It was only possible to ascertain that digestive troubles had existed for some time, and that some three weeks before the operation sharp pain had been felt in the epigastric and hypochondriac regions, with constipation and some abdominal distention. The physician who was called was not able to determine anything definite at the time. The patient had led a hard life and had lived on coarse food, which in the nature of things would suggest some indefinite stomach and intestinal trouble attended with a certain degree of auto-intoxication. The leakage had set up an adhesive inflammation which weakly united the transverse colon over the perforations, which for a time shut off the general peritoneal cavity from infection by intestinal contents. The infection later extended along the intestines toward the sigmoid, resulting in a paralysis of the bowel with distention, giving the deceptive indication of a sigmoid obstruction.

The previous history of a patient when perforation has taken place will be of considerable value in determining the probable point of escape of infectious matters when symptoms of such an accident occur. Previous to 1895 only 2 out of 20 cases were correctly diagnosed; since that time, of the 31 cases of Weir's tables, 11 were correctly diagnosed, or 2 per cent. of the first series and 35 per cent. of the seconr series, showing the greater alertness of surgeons, and the greater experience from the consideration of gastric ulcers.

In non-perforating ulcers of the duodenum the symptoms are rarely clear enough to make a positive diagnosis. The confusing influence of gall-bladder affections, gastric ulcer and adhesions about the pylorus may lead to an error in diagnosis which may only be positively cleared up after making an exploratory invision. There are, however, certain symptoms which if always present and occurring in certain relative order would make the diagnosis comparatively easy, such as the pain in the right hypochondrium which comes on two to four hours after meals, unrelieved by vomiting and bloody stools. In gastric ulcer the symptoms in relation to pain are nearly reversed, as pain immediately after meals is relieved by vomiting. There is frequently bloody vomiting and rarely bloody stools.

If a diagnosis of duodenal ulcer can be made in a non-perforating case an operation seems to be indicated, before grave and alarming symptoms develop. The location of the ulcer is such that efforts at healing are rarely attended with success and if healing does take place a contraction of tissue is probable thus leading to symptoms of stenosis. If the symptoms of ulcer are sufficiently positive and persistent to warrant a diagnosis the same indications for surgical treatment exist as for ulcer of the stomach.

The only operation for non-perforating ulcer of the duodenum is a gastro-enterostomy. As yet but little has been done in a surgical direction for these patients. The two gastro-enterostomies done by Codevilla, with recovery in both cases, illustrate what may be accomplished. The intractable cases of gastric ulcer which continue to be treated by medical means are now, in numerous instances, cured by a gastro-enterostomy with so small a percentage of mortality as not to militate seriously against the procedure. In fact, the results have been so gratifying that one familiar with them would be little inclined to advise against the operation in the cases which do not, with reasonable permanency, repond to other treatment. The same logic should apply to duodenal ulcers.

In regard to perforating ulcers of the duodenum, it may be said that in a certain percentage no very marked symptoms existed prior to perforation. In 20 out of 25 of Schwartz's cases the patients were in apparently good health. In only 5 were there previous stomach symptoms. In Dr. Weir's collection, 25 out of 34 had gastric symptoms previous to perforation. In the cases collected by different writers a considerable variation appears as to the percentage showing symptoms of diagnostic value previous to perforation taking place. Hence the most watchful care on the part of the surgeon will not prevent the affection being overlooked, as a rule, until symptoms of perforation have appeared. In other words, the operation will be done in but few cases until perforation has taken place.

In chronic cases of duodenal obstruction due to healed or partially healed ulcers, the differential diagnosis of duodenal and pyloric obstruction from similar causes will be made prior to operation in only a few cases. While it may be contended that duodenal ulcers should be treated on the same general plan as gastric ulcers, when the diagnosis can be made, operation will be generally called for in perforation cases only.

The importance of early operation in duodenal ulcers is very great. If the abdomen is not opened within twenty-four hours but little can be expected. In certain patients, if the perforation is very small, adhesions may form which temporarily protect the general peritoneal cavity. Such occurred in my case, in Case XXIV. of Weir's tables, and in the case reported by Landerer and Glückmann in which the duodenum, stomach and colon were sutured together. In this latter the patient survived eight months and died from operation for suppurative peritonitis. Autopsy showed a new perforation in the posterior wall. In case XXI. reported by Lennander, nine days after a sudden attack of pain, vomiting occurred followed by bloody stools. An abdominal incision was made and on separating the abdominal walls from the viscera several small abscesses were found. A perforation was discovered and sutured. Five weeks later the patient died from pulmonary thrombosis. At autopsy two other unhealed ulcers were found, not perforated. Case XLIV., reported by Wright and Burry, developed a fluctuating tumor in region of gall-bladder which increased to considerable size. A diagnosis of hydronephrosis was made. On incision a discharge of a quart of clear fluid was evacuated. Next day the gauze was saturated with a sour fluid. The third day food was noticed on the dressing. Patient died on the fifth day from acute bronchitis. Postmortem showed duodenal perforation.

Of the 51 cases of operation for duodenum ulcer given in the tables referred to in Weir's paper, 6 made permanent recovery. One died eight months after first operation for a second perforation. One died in two months from obstruction in the ilium. At the operation it was found that a perforation existed just above the obstruction.

MEDICAL PROGRESS.

Sudden Suppresssion in the Treatment of Opium Habit.—BRUNET (*Le Progrès Méd.* June 22, 1901) advocates sudden suppression in the treatment of the opium habit. A prerequisite to treatment is the removal from the patient's surroundings of all paraphernalia suggestive of his former habit. A reliable person must be in charge of the patient and the physician should be near at hand during the critical period. The least possible medication favors the detoxication of the system. For insomnia bromide and chloral are permissible at night. Doses of one grain of extract of cannabis indica may be given unknown to the patient once a day as long as cerebral depression continues, and for otherwise uncontrollable pain morphine injections may occasionally be given but never with the patient's knowledge. To sustain a weak heart during the critical period caffeine may be used. Subsequently the case can be managed by fresh air, tonics, massage, baths, and an occasional small dose of trional or sulfonal. A complete change of surroundings for two or three months is desirable.

Surgery in Spina Bifida.—L. MARSHALL (*Brit. Med. Jour.*, June 22, 1901) states that there is one very important point to be observed in the surgical treatment of spina bifida, which is apt to be overlooked by the majority of operators. This is the retention of the cerebrospinal fluid within the cranial and vertebral cavities. During an experience dating back fully two years and covering a number of successful cases, he has found this end to be fully and conveniently subserved by elevating the lower extremities and hips and depressing the head and upper part of the trunk, both during the operation and during the after-treatment. By a careful maintenance of this semi-inverted posture for a period varying between one and two weeks all danger of accidental outflow of this all-important water-bed of the nervous substance is avoided. The further technic consists in making a very small incision into the sac and cautiously evacuating its fluid contents. Then the incision is enlarged to expose the true membranous sac which is next dissected free of the wall as far as the spine, cut away if redundant, and then folded inward upon itself in a pad-like form and sutured by Lembert stitches precisely like the bowel. The skin is then reduced to a suitable size for the flap and sutured over this membranous inner pad with interrupted silkwormgut stitches. The outer dressing consists of cyanide gauze laid down in many layers and fastened with collodion.

Inoculation for the Prevention of Typhoid Fever.—In a typhoid epidemic at Richmond, Asylum CULLINAN (*Dublin Jour. Med. Sc.*, July, 1901) practised serum inoculation on a large number of persons exposed to infection, using in each case ¾ c.c. of serum prepared by Professor Wright of Netley. None of the nurses in the asylum were inoculated, and in proportion to their

numbers the nurses suffered much more severely than the patients. Cullinan believes that inoculation is potent to confer immunity against typhoid, while admitting the failure of the measure among the soldiers in South Africa. The constitutional disturbance following inoculation did not prove severe in any case among the inmates of Richmond Asylum.

Epigastric Pain.—Inflammatory distention of the gall-bladder often leads to severe, cramping pains, variously attributed to gastralgia, cardialgia, gastrodynia and gastrospasm. H. W. BETTMANN (*Cleveland Jour. of Med..*, July, 1901) follows the rule to suspect gall-stones when a paroxysmal, severe epigastric pain recurs regularly several hours after eating, if a careful examination of the secretions and digestive functions of the stomach reveals no abnormality, and tabes does not exist. An interesting form of epigastric pain occurs in chlorotic girls. It is of a gnawing or boring character, increased by ingestion of food, and suggesting gastric ulcer. There is no nausea nor vomiting, and the pain is always in the middle line. A form of epigastric pain accompanies arteriosclerosis. It is a crampy feeling coming on after meals when any exercise has been indulged in. The pain may stop when the patient remains quiet. It occurs only in elderly people.

Hydro-Electric Baths in Pulmonary Tuberculosis.—Following the use of insufflations and inhalations of iodine, formaldehyde and menthol, MAGGIORANI (*Le Progrès Méd.*, June 29, 1901) treated 500 cases of pulmonary tuberculosis by means of hydro-electric baths, given every other day. Lukewarm water was used and each bath lasted ten or twelve minutes. The following results were noted: Increase of body weight, digestive power, hemoglobin, acidity and specific gravity of urine; diminution of cardiac frequency, respirations, pain, night-sweats, rheumatoid attacks; amelioration of genital asthenia; abolition of insomnia; regulation of intestinal function and of menstruation; strengthening of the heart.

Three Symptoms from Abnormal Conditions of the Foot.—H. W. FREIBERG (*Cleveland Jour. of Med.*, July, 1901) concludes that abnormal conditions of the foot may be the cause of pains in the knee, with or without themselves presenting subjective symptoms. Pronated and flatfoot is the most frequent cause, possibly from shortening of the calf-muscles, and their drawing on the capsule of the knee through the medium of the plantaris. Pal considers flatfoot also a cause of *meralgia paræsthetica.*

Mean Arterial Pressure in Insanity.—Observations by W. R. DAWSON (*Dublin Jour. Med. Sc.*, July, 1901) support the view that states of mental depression and stupor are associated with high arterial tension; states of mental exaltation and excitement, with low arterial tension. These facts afford a somewhat empirical basis for treatment. Melancholic cases beginning with high tension show a gradual decline of tension in proportion to the mental improvement.

Tuberculous Meningitis with Hemiplegia.—In a case reported by SOUQUÉS and QUISERNE (*La Méd. Moderne*, June, 26, 1901) tuberculous meningitis manifested itself at first by transient attacks of hemiplegia lasting for several minutes or even for one or two hours. After four days the hemiplegia became permanent. Kernig's sign being present, lumbar puncture was resorted to and the diagnosis confirmed. In the absence of cyto-diagnosis by means of lumbar puncture the question of a possible cerebral tumor would have remained.

The Reaction of Fixation with Sterilized Typhoid Cultures.—The reaction of fixation in the diagnosis of typhoid has been obtained by WIDAL and LE SOURD (*La Presse Méd.*, June 26, 1901) by means of a sterilized culture of typhoid bacilli, the latter being substituted for the living germs heretofore used. A gelatin culture is used and from this an emulsion is prepared in a .7 per cent. (seven-tenths per cent.) solution of sodium chloride. The emulsion is exposed to a temperature of 61° C. for three-quarters of an hour.

Epithelioma of the Penis.—The most frequent form of carcinoma of the penis is epithelioma. PATTERSON (*Univ. of Penn. Med. Bull.*, July, 1901) considers phimosis a strong predisposing factor. The virus of syphilis has nothing to do with epithelioma, but the scar of an old syphilitic lesion constitutes an area of decreased resistance. The question of contagiousness of epithelioma is regarded as still to be decided. Origin in the urethra is relatively rare; a more common place of origin is the glans or prepuce. The only safe treatment in any stage consists in the thorough eradication of the area of disease and of all involved lymphatic glands.

Primary Cystorrhaphy After Suprapubic Cystotomy.—DR. BALACESCER (*Centralbl. f. Chir.* 1901, No. 25) states that in the clinic of T. Jonnesco at Bucharest the following method has been successfully and repeatedly performed on dogs and then on man of making a primary cystorrhaphy after incising the bladder. For the first eight days a retention catheter is carried, after that the patient voids his own urine or is regularly catheterized. In a few patients no retention-catheter was used and either voluntary micturition or catheterism was performed. The bladder is freely exposed through the usual suprapubic vertical straight incision, and its upper and lateral walls freed of peritoneum with the finger in order to permit of its being more readily and prominently brought up into the wound. When so presenting it is incised layer-by-layer and the stone removed. As a rule the bladder should be empty at the time of the operation, and always when possible a preliminary irrigation performed for about one week. When the bladder is ready for closing for the length of the wound on one side only the mucous membrane is carefully dissected free over a width of about one centimeter. The mucous membrane is now brought together very carefully so that each extremity is closed. Then the muscular layers

are united so that the last stitches are beyond and shut off the wound ends. Then over the entire suture line the muscle walls are apposed by Lembert sutures, exactly as in the intestine. Such a procedure is absolutely safe and renders it possible to get the patient up in twelve days.

Adenoma Sebaceum of the Non-Symmetrical Type.—Two main types of sebaceous adenomata are distinguished by GOTTHEIL (*Jour. Am. Med. Assoc.*, July 20, 1901). The first accords with Unna's definition: Benign, irregular outgrowths of the sebaceous epithelium going on to fatty but not to colloid metamorphosis. The second is a simple hypertrophy of apparently normal sebaceous-gland tissue. Clinically, most cases are multiple, yellowish, firm nodules without central depression, commonly situated on the nose or nasolabial folds. A case observed by the author presented a growth on the right parietal scalp, forming a curved, elongated pinkish-yellow patch 2½ inches long by ¾ inch broad. Normal scalp was entirely absent over this area; a few lanugo hairs were present. Prior to microscopical examination the case was regarded as xanthoma. The diseased area was excised.

Total Extirpation of Thyroid.—Acute dyspneic symptoms in a boy of sixteen were treated by tracheotomy without relief in a case reported by COTT (*Jour. Amer. Med. Assoc.*, July 20, 1901). Removal of the thyroid was then attempted under eucain and completed under chloroform. The gland weighed 5½ ounces. In eleven months after the operation the boy gained thirty pounds and grew three inches.

Venom and Antivenene.—As the result of experimental research along these lines, J. MCFARLAND (*Proc. of Phila. Path. Soc.*, June, 1901) concludes as follows: (1) By subcutaneous and intravenous injection of unheated crotalus venom it is possible to immunize horses to the chief toxic element; (2) the immunity thus afforded is very slightly protective against the initaline poison contained in the venom and animals whose serum contains much antivenene may succumb to its local effects; (3) the development of the immunity is accompanied by the occurrence of large quantities of antivenene in the blood of these animals; (4) the antivenene is fully able to save animals from both crotalus and cobra venoms: (5) the quantity of antivenene in the blood fluctuates according to circumstances as do the other antitoxic sera declining as the vital condition of the horse is depressed; (6) the normal endurance of horses to venom varies considerably, as does their resistance to diphtheria and tetanus, so that only one out of three horses survived treatment for a considerable length of time; (7) the intravenous method of administering the unmodified venoms is by far the best and is not attended by sloughing of the tissues. Great care must, however, be exercised in order that the venom does not enter the subcutaneous tissues; (8) as the immunity does not extend to the initaline poison and as the protection afforded to animals receiving antivenene is against the venoms only, it is probable that Calmette's method of immunizing animals with modified (heated) venom which contains none of the initaline substance is greatly to be preferred as causing the animals less suffering and not endangering their lives.

Plague Inoculation.—In regard to the efficiency of prophylactic inoculation with Haffkine's vaccine in plague, W. B. BANNERMANN (*Ctbl. f. Bäk.*, June 24, 1901) says that such inoculations have been carried out by the Government on a large scale in many parts of India. In 6,000 cases the mortality was 43.5 per cent. in the inoculated and 73.7 per cent. in the uninoculated. These results are at variance with those obtained by Calmette in his laboratory observations, who claims that inoculation with this virus aggravates the disease and greatly increases the mortality. It may be said that inoculation with this vaccine begins to show its beneficial effects in a shorter time than any preventative treatment known, being apparent in less than twenty-four hours. The length of time the protection lasts is still undecided, but evidence is accumulating in India to show that a good effect is still visible as long as eighteen months subsequent to the operation.

Natural and Artificial Immunity.—After a series of experimental studies on this subject A. WASSERMANN (*Ztschrift. für Hygiene und Inf.*, June, 1901) draws the following conclusions: (1) The accessory factors are intravital present substances; (2) these factors play a causative part in all known varieties of natural immunity; (3) they are not the only cause of natural immunity; (4) in certain species of hereditary immunity no causative part can be assigned to these factors; (5) in the typhoid infection of guinea-pigs these factors have a direct influence upon the acute, subacute or chronic course of the disease; (6) the action of specific immunizing sera in the body depends upon the combination of these factors with the immunizing bodies of Pfeiffer and Ehrlich; (7) large doses of immunizing bodies raise the affinity between these and the corresponding accessory factors; (8) these factors play no part in the action of specific antitoxic sera in the organism; (9) active typhoid immunity of guinea-pigs depends upon the circulation of a specific immunizing serum in the body of the animal and is thus hematogenic and not histogenic; (10) artificial resistance against certain infections following the injection of different non-specific substances has some other cause than the ordinary accessory factors; (11) a permanant increase of the accessory factors within the body has not been artificially produced; (12) these factors are of an albuminoid composition; (13) these factors are multiple in their nature, yet certain kinds

are common to ordinary research animals; (14) the leucocytes are surely a source, but not the only one of these factors.

Bacillus Coli Communis in River Water.—The presence of the bacillus coli communis in river water as an index of the self-purification of streams has recently been investigated by E. O. JORDAN (*Jour. of Hygiene*, July, 1901). His work consisted of a series of bacteriological examinations of Illinois River water, a stream abundantly contaminated by Chicago sewerage. After a pulmonary inoculation of the water into carbol-broth (1 c.c. of a 1 per cent. solution of carbolic acid to 9 c.c. of sterile bouillon), which was then incubated at 38° C. for twenty-four hours, he "plated" from this into loctose letinus agar. All colonies which produced a red color were isolated and tested for indol production, gas production and milk coagulation. Those colon bacilli which were thus isolated were not as a class gas producers. The further away from the source of contamination the water was taken, the smaller was the number of colon bacilli found, and this reduction in number was greater than could be accounted for by mere dilution. The season of the year had no effect on the number of bacilli present. The typhoid bacillus being more easily influenced by deleterious conditions than the colon bacillus, he believes that the presence of the latter is the best criterion in examination of river waters for the presence of the former.

Trichocephalus in Infection of the Appendix.—J. GIRARD (*Annales de L'Institut Pasteur*, June 25, 1901) cites a case to support the view expressed by Metschkinoff that the trichocephalus may not only produce a condition of appendicular colic, but may also act as an agent of infection and produce a true inflammation of this organ. The patient, two weeks convalescent from typhoid fever, developed a condition of abdominal tenderness accompanied by pain in the right iliac fossa, with a rise in temperature to 101° F. Laparotomy was performed, a seropurulent fluid being found in the peritoneal cavity, with distention and congestion of the intestine and in places the formation of a fibrinous pseudo-membrane. The appendix was apparently normal, but upon resection and examination was found to contain two round masses which proved to be portions of a trichocephalus. On examining the mucous membrane a similar body which showed itself to be the anterior extremity of this parasite was found embedded in it. As this parasite in its normal habitat plays a rôle more or less septic, he believes that under certain conditions it is able to invade the mucous membrane of the appendix and act as an infecting agent to the same.

Formic Aldehyde and Metabolism in Children.—T. W. TUNNICLIFFE and OTTO ROSENHEIM (*Jour. of Hygiene*, July, 1901) remark that biological interest in this substance consists in the fact that it has long been regarded as forming the first product of plant assimilation and has recently been actually demonstrated as such in plants. It undergoes polymerization under the influence of simple reagents resulting in the formation of sugars, which leads to the belief that it is an essential link in the formation of the complex carbohydrates of plants. It has recently been held as the only possible source of proteid anabolism. Its interest to the physiological chemist is that it energetically combines with the proteids and to a less extent with the carbohydrates, effecting considerable alteration in their physical and physiological properties. This behavior seems to be directly antagonistic to the biological rôle above described. After observations upon three children lasting from twenty-one to twenty-eight days, they draw the following interesting conclusions: (1) In healthy children formic aldehyde in doses of 1-5,000 in milk or 1-9,000 in total food and drink exerts no appreciable effect on the nitrogen or phosphorus metabolism or fat assimilation. The analytical figures, however, suggest that it has a tendency to diminish the phosphorus and fat assimilation and hence it may be inferred that in larger doses or if continued for a long period it would act in this direction. This effect is referable to an influence upon pancreatic digestion; (2) in healthy children in the above doses it produces a retention of water in the body; (3) in delicate children in the above maximum dose it has a chemically measurable deleterious effect upon the nitrogen. Phosphorus and fat assimilation again due to its action upon the pancreatic digestion combined with a slight intestinal irritative effect. There was a slight tendency to stimulate the katabolism of proteid material; (4) in delicate children it increases the volume of the urine and the weight of the feces; (5) in all cases the excretion of lecithin in the feces was diminished, probably due to its stimulating action upon the lecithin-splitting ferment of the pancreas; (6) in no instance did it exert any appreciable intestinal antiseptic action; (7) in no instance was there any effect upon the general health of the children.

Injections in Syphilis.—As disadvantages of the usual inunction treatment of syphilis, M. STERN (*Münich Med. Woch.*, July 2, 1901) mentions the uncleanliness, the inexact dosage, and the frequency with which the cure is interrupted by the patients themselves, the result being the present increase of tertiary and parasyphilitic affections. Injection, on the contrary, are convenient and easy of administration, rapid in action, and possess the further advantage that the physician need not leave the greater part of the treatment to the discretion of the patient. In cases in which there is a diseased or senile skin, the absorption of mercury is much diminished and in-

jections become an absolute necessity; when a rapid diagnosis has to be made they are far superior to inunction. Concerning the use of insoluble or soluble mercurials, opinions are divided, but the former possess the advantages that they have to be given less often and that from six to ten injections generally suffice. The author has tried the various salts and combinations recommended, and finds that calomel generally causes too intense pain, while gray-oil injections are liable to be followed by infiltrations and abscesses. The best results have been obtained by him with sublimate.

Larvæ of Anopheles and Culex in Winter.—Bruno Galli-Valerio and P. Nabrel (*Ctblt. für Bäk.*, June 27, 1901) have undertaken experimental research in regard to the presence of the larvæ of these insects during the winter months. They examined the water of frozen marshes and found during January and February many larvæ of the *Anopheles* but very few of the *Culex*. These, however, became abundant in the latter part of March. They explain this on the ground that the *Culex* is able to develop in from thirteen to seventeen days, while the *Anopheles* requires thirty days for this purpose. Therefore many of the last larvæ of the *Culex* in the fall would have time for development before cold weather set in; while, on the other hand, most of those of the *Anopheles* would hibernate.

Gastroptosis.—According to M. Hayem (*La Méd. Moderne*, July 12, 1901) in the etiology of gastroptosis there is a typical difference between the sexes. Gastric dilatation is more common among men, while certain mechanical causes in women have no counterpart in the opposite sex. Rickety thorax, the transversely flattened phthisical thorax, and spinal curvature, are causes common to men and women. Pressure in the hepatic region tends to interfere with the evacuation of the stomach by causing counterpressure of the duodenum against the spinal column. Relaxation of ligaments may be due to rapid emaciation or to pregnancy. Where chronic gastritis is associated with gastroptosis attention should first be directed to the latter condition. Mechanical support should be supplemented by persistent massage. Soft diet is advisable; and to facilitate the evacuation of the stomach the patient is instructed to remain recumbent for an hour or two hours after meals. Constipation is treated by intestinal massage, injections of oil or rectal irrigation.

Merits of Bipolar Version in Placenta Prævia.—In placenta prævia a fatal result is usually due to hemorrhage or sepsis. The hemorrhage is unavoidable and incident to dilatation of the os. Consequently the method requiring the least degree of dilatation necessary to perform version should give the least hemorrhage. The artificial dilatation sufficient to perform bipolar version is comparatively safe, says H. D. Fry (*Am. Gyn. and Obstet. Jour.*, July, 1901), while that necessary for the insertion of the hand and internal version is dangerous. Thirteen cases treated by Behm according to the method of dilatation and version gave four maternal deaths; forty cases were treated by bipolar version and slow delivery without the loss of a single mother. Nine cases of bipolar version were observed by Fry; all the mothers recovered.

An Anatomical Tonsillotome.—W. Stuart-Low (*Lancet*, June 29, 1901) states that tonsils usually enlarge downward so as to maintain their anatomically elliptical form. Consequently with the ordinary tonsillotome having a round hole the lower segment of the gland is imperfectly removed. He finds that if the opening be made elliptical with the major axis at right angles to the axis of the instrument all such difficulties will be obviated.

Topography of the Vermiform Appendix.—P. Muller (*Centralbl. f. Chir.*, No. 27, 1901) states that in the majority of operations upon the vermiform appendix it is easy to find the organ from the ileocecal juncture and caput coli, but when an abscess is present and the coils are much matted together these landmarks are frequently of little value. There is, however, one serviceable and ever-present pointer in the longitudinal bands. The anterior is the best and may be traced even with adhesions over it. At the point of union of these three bands the appendix is always found.

Empyema of the Frontal Sinus.—The symptoms of acute suppurative inflammation of the frontal sinus usually come on a week or two after the subsidence of the causative coryza, says E. F. Ingals (*Jour. Am. Med. Assoc.*, July 27, 1901). The most common symptoms are photophobia, pain in the eye, larcrimation, pain in the supra-orbital region. The pain is apt to come on in the morning, last a few hours and then pass off until the following morning. Not until the second week does pus appear in the naris; the flow of pus is much diminished at night. Anatomical variations render transillumination an uncertain aid to diagnosis; unusually dense walls or actual absence of the sinus will give a shadow and suggest pus where there is none. In probing the frontal sinus a silver cannula may be used, attached to a small syringe; air forced into the cavity will cause a discharge of pus or air-bubbles. Acute cases call for the use of warm and soothing detergent and antiseptic sprays, watery extract of adrenal glands or the guarded use of cocaine to promote free drainage. In chronic cases with marked ocular, orbital or cerebral symptoms, and in the more violent types of the disease with severe pain, an external operation should be done at once.

Diagnosis of Pancreatic Disease.—The fact that bacteria flourish upon the products of digestion of albumin and by their action pro-

duce the substances which are ultimately excreted in the urine as ethereal sulphates has led to the supposition that if their food was reduced in quantity by the absence of pancreatic digestion the amount of these sulphates normally present in the urine would be much lessened. D. L. EDSALL (*Proceedings of Phila. Path. Soc.*, July, 1901) has investigated two cases along this line. The first case was proven by autopsy to be carcinoma of the pancreas and the second by the clinical course to be a prolonged catarrhal jaundice without any evidence of pancreatic involvement. The first showed much decrease in the quantity of this substance daily excreted and the second gave an increase in the same. He thinks a positive result with this test is of great value as a diagnostic sign of pancreatic disease, except when gastric hyperchlorhydria, diarrhea or a milk diet are present. These latter have also been shown to be associated with low urinary values for the ethereal sulphates. A negative result would, however, be valueless, as it is probable that intestinal bacteria under certain conditions are able to break up enough undigested albumin to keep the excreted amount of these substances normal. As regards the presence of fat in the stools, icterus and active intestinal disease are able to cause the abundant presence of soaps and fatty acids and only the presence of a large amount of neutral fat is indicative of pancreatic disease.

A New Intestinal Suture.—H. LITTLEWOOD thinks (*Lancet*, June 29, 1901) that the ideal intestinal union is that which is made without any mechanical device like the Murphy button. He has tried the following simple suture with great success and rapidity. The operation is practically the same for gastro-enterostomy and entero-enterostomy. Therefore the description of either will suffice. The aim of the procedure is to avoid the accidental and occasional union of the mucous membrane across the opening after the operation has otherwise succeeded. At the selected points in the stomach and intestine the layers are divided one at a time until the mucous membrane is in view. Then the muscular and serous coats are carefully separated for a distance of 1.00 to 1.50 c.m. on all sides. Then the mucous membrane is cut and then trimmed out until the point of separation is reached. This makes the opening in the mucosa greater by the 1.00 to 1.50 c.m. trimming than that in the other two coats. The edges of the mucosa are now sutured with ordinary catgut, the redundancy in the other two coats is accommodated by snipping. Next these two layers are united with their broad raw surfaces apposed. The advantages are that the mucous membrane hole is the largest, that the broad surfaces in the outer layers unite most strongly and quickly and that the entire procedure is without any mechanical device like buttons and requires after a little practice only fifteen minutes for its performance.

Lupus Vulgaris Cured by Urea.—In the treatment of constitutional tuberculous troubles hygienic remedies have certainly been proven to be of far more value than the use of any specific drugs, and it is with a great deal of regret that the medical profession has been obliged to admit its inability to materially alter the course of this most prevalent disease. Recently some work has been done in the use of uric acid and urea in the various tuberculous lesions, the idea having originated from the well-known observation that this disease seldom occurs in markedly rheumatic or gouty persons. A. H. BUCK (*Practitioner*, July, 1901) has reported a very severe case of lupus involving the face, nose and mucous membranes of the mouth and nasal cavities. This case underwent all the ordinary methods of treatment and gradually grew worse, the duration of illness lasting about ten years and was preceded by a history of tuberculous joints and glands. Last April he was given urea, gr. xxx t.i.d., and this was gradually increased to gr. j. In about two weeks' time the edges of the ulcers became more healthy in appearance and with astonishing rapidity the lesions have been healing until now when no ulcerated area can be found. No other change was made in the habits or treatment of the patient and the results seem to have been entirely due to the urea administered. No bad symptoms occurred even when doses of one dram were given.

Frequency of Typhoid Bacilli in the Blood.—R. I. COLE (*Johns Hopkins' Hosp. Bull.*, July 1901) made cultures from fifteen cases, taking the blood directly from the veins at the bend of the elbow. In eleven cases the typhoid bacillus was cultivated. The cases included those of moderate severity as well as those of great intensity. Positive results were obtained at various stages of the disease, most of them during the second week, the earliest on the sixth day, the latest on the twenty-seventh day. In five cases the cultures were positive before a positive Widal test (dilution 1-50 in one hour) was obtained. Cultures were made from the urine in twelve of the fifteen cases and the bacilli were isolated from six. It is evident that cultures from the blood have definite clinical importance, especially where the Widal reaction is delayed.

Value of the Arloing-Courmonts Serum Reaction With Respect to the Recognition of Tuberculosis in Swine.—MAX BECK and LYDIA RABINOWITSCH (*Ztschrift. für Hygiene u. Inf.*, June 18, 1901) have instituted a series of experiments in regard to this subject. They examined one cow and eight calves, these last having been inoculated with human tuberculosis six months earlier. The cow showed the agglutination plainly in a 1 to 20 dilution, yet on autopsy and bacteriological examination no signs of tuberculosis were found. Of the inoculated calves only two showed the reaction in a 1 to 10 dilution. One calf inoculated

in the eye and which showed there a cheesy degeneration gave no reaction. The remaining five calves showed the reactions only in a 1 to 5 dilution, yet all were tuberculous. They conclude that in swine a positive occurrence of the reaction does not necessarily mean a diagnosis of tuberculosis and that a negative result does not exclude it; therefore it is not suitable for employment as a means of such diagnosis with respect to these animals.

Roentgen Rays in Diagnosis of Pulmonary Tuberculosis.—Another valuable means of diagnosing early cases of tuberculosis has been furnished the clinician in the use of the fluoroscope and skiagraph. Small infiltrations can usually be made out without any difficulty provided the observer has had sufficient experience. This method of confirming other physical signs is now widely used and several points of value are mentioned by E. C. BEALE and H. WALSHAM (*Practitioner,* July, 1901). The tube should be placed from twelve to twenty inches from the patient to avoid the divergence of the rays. In using the skiagraph it is usually not necessary to give a longer exposure than two minutes, since the rays are able to penetrate the more solid tissues after a longer time and the finer shadows may be lost. In tuberculous disease the shadow cast is of larger extent than the lesion as estimated by other clinical methods. Since a pure culture of tubercle bacilli or isolated tubercles on mucous membranes fail to throw a shadow, it is believed that the presence of a shadow means a definite deposit of tubercles. It is also possible at times to diagnose the cause of the lesion which casts a shadow, whether it be fibroid changes, fluid or tuberculous infiltration. The characteristic feature of fibroid changes and thickened pleuræ is a linear and streaky appearance as opposed to the flocculent and spotty appearance of the tuberculous shadow. Serous fluid casts but a faint shadow while purulent accumulations throw very dark shadows neither mottled nor streaky.

Inebriety.—This question which has such an important bearing upon the social status of the community has been thoroughly investigated by C. L. DANA (*Med. Rec.,* July 27, 1901) during a long service at Bellevue Hospital. He finds that about ninety per cent. of inebriates give a history of having parents addicted to the same habits and he believes that it is largely a matter of habit and environment. Of 1,560 cases one-third of them were laborers, a large percentage being furnished by clerks, tradesmen and drivers. Professional men compose about three per cent. About two-thirds of the cases are men, one-third women. The habit is unusually acquired before the age of twenty and almost always before thirty. Among the serious cases, the average duration of life after the habit was acquired was fifteen years, the maximum being over forty years. Even among those best fitted to withstand the effects of this poison, it takes about fifteen years to bring on the final dementia and insanity and it is estimated that during this time they consume about two thousand gallons of whiskey. A man of fifty-five had been drunk twice a day for three years. He suggests as agencies for preventing and lessening the injury done by this drug: (1) teaching; (2) control of the sale; (3) avoidance of transmission of degeneration through marriage of alcoholics; (4) personal supervision of those who become inebriates. The treatment may be divided into the ideal and the practical. The first would consist in the commitment of the patient to a thoroughly equipped State institution for at least six months or a year and not allow him to leave as soon as he had recovered from his debauchery. As this is impossible the patients must be sent either to the "cure" or treated at home in some such way as this: He should stop drinking and smoking and take for three weeks a mixture:

℞ Tinct. nux vom..... ℥i
Tinct. capsici ..... ℥i
Tinct. cinchon. comp. ..... ℥v

M. et Sig. One ounce t.i.d. and increase by 20 drops daily to half an ounce three times a day. The maximum dose should be continued for a week and then reduced as it was increased. Two drams of sodium bromide should be given daily when nervousness appears. The patient should be fed well and avoid getting tired or hungry. When the desire for drink returns he should take two drams of above mixture and add $^1/_{20}$ grain of atropine. At the end of two weeks the course should be repeated.

Diphtheria as a Complication of Measles.—From an analysis of 157 cases of measles with diphtheria D. N. BLAKELY and F. G. BURROWS (*Boston Med. and Surg. Jour.,* July 25, 1901) conclude that the earlier in the course of measles diphtheria develops, the more serious it is. Among fifty-four fatal cases death was due in thirty-four cases to the diphtheritic poison alone, twenty-one cases showing early extension and toxemia, ten cases later nerve degeneration. The importance of early diagnosis is obvious. Nasal obstruction or laryngeal obstruction arising during the course of measles almost certainly means diphtheria. If the initial fever of measles disappears and there is a later sudden rise of temperature, or if the cough bcomes brassy or paroxysmal, the possibility of diphtheria must be considered. Persistent fever with aphonia signifies diphtheria as a rule. When the ordinary serous discharge becomes mucopurulent or glairy, cultures should be taken. In all obscure cases give the patient the benefit of the doubt and administer antitoxin.

Sulphate of Copper in Affections of the Eye.—Besides being the classical mode of treating trachoma, the use of bluestone has recently been found to be of great value in relieving various chronic conditions of the cornea and conjunctiva. J. H. CLAIBORNE (*Med. Rec.,* July 27, 1901) reports a number of cases

illustrating the conditions which he has found to be markedly benefited by the use of this remedy. He believes that in all acute attacks of inflammation of the cornea in which there is thickening with a succulent velvety appearance of the lid and in all recurrent attacks of superficial keratitis there is an indication for bluestone. In chronic conjunctivitis attended by thickening of the lid associated with blepharitis and also in chronic dacryocystitis attended with conjunctivitis much benefit may be obtained. The copper sulphate crystal should be ground in the form of a parellelogram and then inserted into a porte-crayon. A metal probe wound with cotton should be placed in a basin of water. The upper lid is everted and the bluestone applied beneath the lid, between it and the globe. This is not washed off. The stone is then applied to the cul-de-sac of the lower lid and the excess removed by washing with the probe.

Toxicology of Male Fern.—W. GOTTHILF (*Münch. Med. Woch.*, July 2, 1901) was suddenly called to a patient in deep coma which had been preceded for two days by headache, vertigo, apathy and complete anorexia. The diagnosis at first sight seemed to rest between epilepsy and apoplexy. A hasty examination showed a rapid, regular, but thready pulse, wide pupils, increased patellar reflexes, and a tonic spasm of the entire body, especially of the arms. The rapid reaction on stimulation made it more and more likely that the case was one of intoxication. It was then found that the patient had swallowed about ten grams of pure extract of male fern for an alleged tapeworm without subsequent catharsis. The author dwells upon the importance of removing the drug with castor oil, etc., to prevent absorption and subsequent poisoning as in this case.

THERAPEUTIC HINTS.

Bronchopneumonia.—The air of the room should be well laden with moisture, as from a croup-kettle. In young children the chest should be covered with a layer of oiled silk or waxed paper over a linseed-meal poultice, which latter is replaced, when the symptoms have subsided, by an absorbent-cotton jacket. In older patients iced poultices to the chest exercise a most favorable influence. High fever calls for tub-baths or the cold pack, especially in those cases that begin abruptly. Tincture of aconite or veratrum may be employed temporarily. As a supplement to the baths, the following is good:

℞	Potass. citrat.....	10.0	(℥iiss)
	Spt. ammon. aromat.....	8.0	(℥ij)
	Spt. ætheris nitrosi.....	16.0	(℥ss)
	Liq. ammon. acetat.....	90.0	(℥iij)
	Glycerini q.s. ad.....	120.0	(℥iv)

M. Sig. One teaspoonful every two hours for a child of five years. In children a mild mercurial purge at the outset is advantageous. The diet may consist of milk, eggs, albumin and broths; the egg-white may be given in cold water or as egg-lemonade; the milk may be peptonized. A useful formula for the cough is

℞	Vin. antimonii	4.0	(℥i)
	Spt. æth. nitros.	10.0	(℥iiss)
	Tinct. opii camph.	10.0	(℥iiss)
	Liq. ammon. acet. ad....	60.0	(℥ij)

M. Sig.: A teaspoonful every two hours, for a child of three to five years.

Dover's powder is also of value. Ammonium chloride or carbonate will loosen thick sputum, but if, in spite of this, the bronchi are clogged, an emetic such as

℞	Vin. ipecac	4.0	(℥i)
	Alumini	1.3-2.0	(gr. xx-xxx)

administered every fifteen minutes until emesis occurs. As cardiac stimulants, alcohol, strychnin and especially ammonium preparations are favorites, and oxygen when cyanosis appears.—J. M. ANDERS in "Practice of Medicine."

Acute Nephritis in Children.—The treatment consists of rest in bed between blankets, milk diet, water drunk freely, and, at the start, a calomel purge followed by a mild saline, such as liquid citrate of magnesia. The body may be sponged with warm water, or a warm bath given once or twice a day, precautions being taken to avoid chill. A non-irritating diuretic is the citrate or bitartrate of potassium, which may be given in water with lemon-juice and sugar. The severe cases with dropsy, fever and suppression of urine must be treated actively by dry cups on the lumbar region, by purgation with an active saline (magnesium sulphate), and by free sweating by a hot-air bath or hot pack. A daily irrigation of the colon with normal salt is of value. If uremic symptoms set in, bleeding is the most certain means of relief, two to six ounces of blood being drawn from a child of five years. A full and bounding pulse requires nitroglycerin; threatened convulsions demand bromides and chloral by enema. The patient should be confined to bed as long as there is a trace of albumin in the urine, unless chronic nephritis is seen to have developed. The post-nephritic anemia calls for iron, preferably Basham's mixture.—W. M. POWELL in "Diseases of Children."

After Weaning.—After a child is weaned, it should not be fed oftener than once in four hours, with eight hours' rest at night. The first morning bottle should consist of eight ounces of cow's milk, the second of five ounces of cow's milk and two ounces of barley-water, preceded by the white of a raw egg fed with a spoon. The third feeding is eight ounces of milk, and the child may be allowed to nibble half a piece of the ordinary zwieback. The evening meal consists of six ounces of cow's milk, and two ounces of barley-water, and the last feeding for the night, of eight ounces of cow's milk.—L. FISHER in "Infant-Feeding in Health and Disease."

The Medical News.

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BIRTH INJURIES AND NERVOUS SEQUELÆ.

There is a growing persuasion among specialists in nervous and mental diseases that injuries inflicted on the head of the child during the progress of difficult and protracted labor are responsible for many more of the serious nervous and mental conditions that sometimes develop in after life than has been supposed.

Dr. Andrew F. Currier, in his article on "Injuries of the Head in the Newborn" on page 161 of this week's Medical News calls renewed attention to this very important question. It has been too much the custom to think that the brain tissues of the newborn are capable of standing with impunity much more traumatic abuse than those of the adult. Because irregularities of the skull produced during the molding process of a protracted delivery very frequently disappear completely within a short time after birth, it has been considered justifiable to assume that the underlying soft tissues also undergo *restitutio ad integrum* and that no serious effects need be feared.

Despite this common impression to the contrary, infantile cerebral tissues are extremely delicate and it requires but very little traumatism or even only unfavorable conditions of nutrition to produce serious lasting ailments. Some years ago when the problem of the easier delivery of children through contracted pelves was being solved by the production of labor from four to six weeks before term, it was found that children thus prematurely delivered often failed to develop normally. Mental defects were not rare in such children, apparently because the delicate brain found normal development impossible under the unusual conditions of extra-uterine life. It is evident, therefore, that we cannot presume on the unsusceptibility of these young brains to injury. Moreover careful review of the history of cases of serious nervous disease that develops later in life shows that a difficult and often an instrumental labor is apparently the most important element in the etiology of the condition.

German authorities are coming more and more to the belief that so-called idiopathic epilepsy is really due in the majority of cases to injuries received during birth. There has not been any doubt in the minds of most physicians for many years that many of the cases of idiocy and impaired intellectual power are due to labor lesions.

Two lessons are emphasized by these considerations of the possible lasting effect of injuries received during labor. The first is the rule of absolute abstention from interference with the normal course of delivery unless necessity demands it. Parturition is an eminently individual process. No general laws can be laid down for the length of time it shall last in any given case. Only the special indications of the particular case can justify artificial aid in delivery. It seems confessedly true that the forceps are used too much. We do not agree with those who assert that the instrument has done more harm than good. We even wish to recall for the sake of its precious lesson the fact that the timidity of an accoucheur in the delivery of a queen of England gave Queen Victoria the throne, for it is said that the timely use of the forceps would have saved the life of England's preceding queen and given another heir to the throne. The forceps have a distinct and extremely useful place in medicine, but they are undoubtedly responsible for manifold evil and only positive indications justify their use.

The other lesson with regard to birth injuries of the head is well brought out by Dr. Currier. It is that pathological conditions about the cranium, especially those which involve the bony structures should be treated in the same manner

as corresponding lesions that occur in patients at later periods of life. Bone depressions should be elevated without delay. Fractures of the skull should receive the most careful attention, so that as far as possible the occurrence of internal ridges of bone shall be avoided. Whenever labor has been difficult or protracted, a careful examination should be made very shortly after the infant's birth in order to detect any lesion that may have resulted. The realization of his duty in this matter will itself act as a deterrent on the obstetrician who might be tempted to terminate a slow labor artificially because of its time-taking protraction.

The saving of even a few children from hopeless idiocy or lifelong nervous affections is enough to encourage the use of every conservative means during and after parturition. Undoubtedly some of the alarming increase in nervous and mental diseases in recent years is due to a neglect of proper precautions with regard to labor and properly applied surgery after its termination. No effort in this direction should seem to be too costly, for no price is too high to pay for even a slight reduction in the number of nervous and mental conditions that may with some considerable show of reasonableness be attributed to birth injuries.

PROPHYLAXIS OF CHILD TUBERCULOSIS.

THE medical profession has taken as its serious task for the twentieth century the eradication of tuberculosis. Needless to say, the success of the antituberculous campaign depends to a large extent on the health and strength of the children of the generation, their protection from opportunities of infection, and their careful treatment in an early stage if the disease is acquired. This feature of the tuberculosis movement, so prominent throughout the medical world, has been more neglected in America than have other phases of this great humanitarian advance. Children with beginning tuberculosis of the lungs or even with well-developed scrofulous tendencies need care in country homes and sanatoria more than any other class of cases. If the pulmonary symptoms are at all prominent, however, there is a well-grounded objection to the reception of such children among other child patients.

As yet the tuberculosis sanatorium movement has not progressed to the point in this country where special institutions of this kind for children can be looked for. The need for them is evident. The battle with tuberculosis among the adult population will prove indecisive until the great source of recruits to the ranks of the tuberculous that constantly exists in neglected children, can be completely cut off. In Europe, especially in Germany and France, this necessity for special care of exposed and predisposed children has been recognized. In the neighborhood of Paris there are two special institutions for the care of tuberculous children; one with 120 beds for the care of patients between three and twelve years of age; the other with nearly 250 beds for children from two to sixteen years of age. The accommodations for patients are, of course, very limited for the needs of the immense French capital, but even this unsatisfactory arrangement represents a distinct advance from the almost complete neglect of tuberculous children a few years ago. A feature of the French children's sanatoria is the existence of two ancilary institutions in the country in which, after they are pronounced cured, children may remain for some time until their health is well established, light work being provided in the meantime by which they may aid in their own maintenance. This feature is almost ideal in its thoughtfulness and prevision and must be most effective in preventing early relapses.

Until private charity and public interest have led to the establishment of similar institutions in this country, all our efforts must be concentrated on the prophylaxis of tuberculosis in the young. The report of the German Central Committee for the Suppression of Tuberculosis points out that the most effective means we have at present for the prevention of child tuberculosis is the care of the health of city children, especially during the summer. As the result of their insanitary surroundings, and because of their low resistive vitality during the developmental period, young children are especially liable to offer a favorable soil for the successful inoculation of the tubercle bacillus. This adds greatly to the amount of tuberculosis present in tenement-house districts. It is from these overcrowded quarters of the city that tuberculosis is carried to the residence districts of the well-to-do classes. Summer outings for poor city children are therefore not only a commendable public charity, but also a distinct means of lessening the death-rate from tuberculosis . The German Central Committee is able in its recent report to show that

cities where summer outings for children are encouraged have a distinctly lowered death-rate from tuberculosis.

Two special precautions with regard to the development of child tuberculosis have been particularly insisted on in recent years. One is the additional care needed for children who have suffered from either measles or from any form of pleurisy, especially if they are of delicate constitution. French authorities maintain that pulmonary tuberculosis seldom develops in children, except in cases where there has been a preceding attack of measles and that in some way this exanthem very favorably influences the tissue soil for the reception of the tubercle bacillus. It is now known, of course, that most pleurisy of obscure origin is really due to latent tuberculosis. Even where some other germ is at work the lowered vitality of the lungs invites the development of tuberculosis.

With regard to the influence of the diet of children on the development of tuberculosis two interesting facts in comparative pathology seem worthy of special notice. It is now definitely settled as the result of careful investigations at the Pasteur Institute that avian and human tuberculosis are but modified forms of the same disease. Fewer birds than has been thought die of tuberculosis. The majority of bird victims of the disease occurs in those species that live on grain. Among the meat-eating birds only those that have consumed the flesh of tuberculosis animals suffer from the disease. The application of these observations to human pathology is obvious. Children must not be allowed to live on a too-exclusively vegetable diet. Milk must form the important part of their diet until they became meat-eaters to a considerable extent. In the meantime every precaution possible must be taken to avoid the use of milk contaminated by tubercle bacilli.

TRAINING AS A THERAPEUTIC METHOD.

Some of the greatest surprises in successful therapeutics toward the end of the last century came from the application of methods of training in order to make up for apparently hopeless deficiencies in various functions.

When Dr. Urbantschitsch of Vienna announced that he had been able by means of properly regulated hearing exercises to make supposedly deaf patients understand the significance of sounds, his declaration was received with almost complete skepticism. Clinical experience with the method of hearing exercises elaborated by him soon demonstrated that the presumably deaf could in many instances be trained to hear most of the sounds originally outside the sphere of their hearing faculty.

When Fraenkel, a Swiss neurologist, announced that patients suffering from locomotor ataxia could be trained so as to regain much of their lost coördination, his claims were received very generally by neurologists with a smile of incredulity. It was pointed out that the paths which carried the impulses necessary for coördination were hopelessly degenerated, practically destroyed, and that nothing could compensate for this loss and no treatment restore lost function. Notwithstanding the apparent conclusiveness of this *a priori* reasoning events proved that Fraenkel's claims were substantially correct. Tabetics can be retaught to make movements without much of the ataxia that they exhibited before. They learn to walk again after having been bedridden for years; they are able to walk without the support they deemed absolutely necessary for even limited movement. Above all, they regain confidence in their power to control their movements and so are able to take up their lives in the open air once more.

Now comes the announcement that Dr. Keller, the director of an institute for the blind in Vienna, has been able to train a child supposedly born blind to see and distinguish many objects that vision had failed to discern before. Herr Keller's patient was a seven-year-old boy in whose external visual apparatus no defect could be detected. The transparent media and the eye ground were perfectly normal. Defective vision was evidently due to some lack of cerebral development or failure of function at the visual centers. This is usually considered to be the most hopeless form of blindness. For this functional disturbance, as in the case of the degenerated sensory columns of the cord in locomotor ataxia and the defective auditory centers in congenital deafness, therapeutics, it would seem, is not without avail. It is evident that training can enable even the naturally inadequate nervous system to perform its work, although it may be imperfectly.

The rationale of the improvement in all these cases seems to be that more concentrated attention is required to direct the defective nervous organization and that patients do not learn of

themselves how to expend the additional energy needed to the best advantage.

Director Keller has taught his first little patient previously blind to all ordinary impressions, to distinguish colors, forms and even objects. A beginning, at least, has been made in reading. His method of training commences with the simplest test, the discernment of light from darkness. The child in a dark room is asked to look in the direction in which a moving circle of light is directed. When he is able to detect light from darkness, various objects are placed within the circle of light until he recognizes them by sight. Colors are placed in a strong light and the patient learns after practice to distinguish them. After a time ordinary daylight serves to illuminate objects sufficiently for discernment, even lines and writing may be seen and its significance realized.

That much may be accomplished by training in making up for congenital defects is now generally conceded. As a therapeutic method, however, it is not practised as much as the benefit to be derived from it would warrant. In our day when, for instance, constipation has become so common and in some cases so obstinate as to make many physicians believe it an hereditary characteristic in certain families, this therapeutic principle should receive careful attention. Drugs inevitably fail after a time and only habit and training can be depended on to make up for the naturally sluggish peristalsis. With regard to neurotic manifestations of various kinds, due training in the control of the nervous system represents the most hopeful side of modern treatment as far as ultimate lasting improvement can be expected. Patients whose nervous systems are the source of functional disturbance in many organs can be trained to regular habits of life and then to the neglect of nagging symptoms that have been making life miserable.

Much of the modern charlatanry in the matter of suggestive cures, hypnotic therapeutics, psychophysical influences, osteopathic treatment, Christian Science healing, owes its success to the application of the principles that underlie and the methods of training that have been so successfully developed by the distinguished members of the medical profession. The power for good contained in these therapeutic methods must not be lost sight of by the general practitioner. On this more than drugs depends the successful treatment of chronic disease, due to some congenital or acquired nervous defect. When it was the custom to consider more carefully than now the temperaments of patients who came for treatment, with the idea of correcting temperamental influences, the old practitioners with an armamentarium much more limited than ours of the present day often accomplished results that seem impossible at present. The lesson seems worth the learning again even though its best recent exemplification has been left to quacks.

ECHOES AND NEWS.

NEW YORK.

Sanitary Conditions at Coney Island.—The sanitary condition of that portion of Coney Island known as West Brighton has during the past week been the subject of much adverse comment from the secular press. Investigations show that the reports have not been exaggerated and that the entire district greatly needs a thorough overhauling from a sanitary standpoint.

Water Scarce in Astoria.—Shortages are becoming chronic in the water department in the Borough of Queens. A few weeks ago it was a shortage of cash and now it is a shortage of water. Several large factories which have been recently built are drawing most of the water while the household consumers are left to suffer.

German Hospital Society of Brooklyn.—There is every reason to believe that a thorough reorganization of this society and the institution under its charge is impending. Judging from recent reports it would appear that a good deal of the talk about the poverty of the hospital has been exaggerated for there are many thousands of dollars in the maintenance fund and an almost equally large sum is at hand for whatever improvements may be found desirable.

Sanitary Conditions at Bath Beach, L. I.—The present sanitary condition of Bath Beach, L. I., is of the worst. Many stagnant pools of water are lying in the vacant lots and the garbage contractors are not properly performing their work. Nothing whatever has been done to remedy these evils although many complaints have been made to the Board of Health.

Hospital Bequest.—According to the will of Jacob Cullman, which was filed for probate last week, $45,000 is left to charitable institutions, $10,000 each to the Mt. Sinai Hospital, the Hebrew Benevolent and Orphan Aslyum, the Montefiore Home for Chronic Invalids, and the United Relief Works of the Society of Ethical Culture and $5,000 to the German Hospital and Dispensary.

Ward No. 13 Abolished.—For medical reasons the Binghamton State Hospital authorities have found it necessary to abolish Ward 13. It was found that this hoodoo number had a depressing effect on many patients whose

superstitions were increased by their mental infirmities. There is now no No. 13 in the State Hospital, the wards jumping from 12 to 14 for the benefit of the patients. It is the first time that the unlucky number has received official recognition by State authorities.

State Begins Serum Culture.—The work of the new antitoxin laboratory of the State Department of Health, the establishment of which was provided for by the last Legislature, has been started, as announced in last week's Medical News. The scientific part of the work will be done in a part of the Bender Laboratory building, Albany. Dr. H. D. Pease, of the Sheffield Scientific School, Yale University, has been appointed director of the new laboratory. Quarters have been secured convenient to the Bender Laboratory, which are to be fitted up as an animal house, provided with the most perfect hygienic conditions attainable for such purposes, and will be supplied with about fifteen horses for the manufacture of serum. Dr. Pease will be assisted in the work by five trained assistants. Dr. Daniel Lewis, State Commissioner of Health, says the importance of the laboratory to the people of the State can hardly be over-estimated. The Commissioner proposes to supply State institutions with diphtheria and other antitoxins free of cost, and also furnish these remedies to municipalities which are not already provided with a similar laboratory, for patients who are unable to buy them. Antitetanus and antityphoid serums will also be manufactured in the laboratory. Health officers throughout the State can now secure from the State Department examination of cultures from diphtheria patients, thus verifying a diagnosis as well as demonstrating when a diphtheria patient has so far recovered as to be allowed out of quarantine. The sputum from cases of pulmonary tuberculosis is also examined by Dr. Blumer, director of the bureau of pathology and bacteriology of the department. These new departments are intended to supply to all the health offices throughout the State the same facilities for investigation, diagnosis and treatment of infectious disease as are now supplied by the city of New York.

Outdoor Treatment of Tuberculosis.—The State Commission in Lunacy is receiving gratifying reports of the workings of the system of outdoor treatment of tuberculosis patients, instituted on Ward's Island by the Manhattan State Hospital about two months ago. Some sixty patients afflicted with the disease have been quartered during the summer in army tents having floors. They have used the tents for living and sleeping rooms, and the results reported to the State Commission are that both old and feeble patients have been greatly invigorated, and cases of formerly helpless patients show such improvement that they are able to walk about and take interest in their surroundings.

New Buildings at Central Islip.—The Commission reports that a part of the new buildings for the Manhattan State Hospital at Central Islip, Long Island, will be ready for occupancy within six weeks, when additional accommodations for 800 insane will be provided. The buildings have been in course of erection since 1898. When completed they will cover an area over one mile long. Their cost will be $1,275,000, and the cost, of their furnishings $100,000. The furnishings are being manufactured in the State prisons. When completed the new buildings will accommodate 2,300 additional insane.

Barber-Doctors Not Extinct.—A barber living up town who must have been carrying on the practice of medicine illegally for some time has become an object of interest lately to the New York State Medical Association. The fact that this man has been practising medicine was brought to the attention of the Association by a physician, the brother of a druggist, to whom the barber sent a prescription, the taking of which would have meant instant and painful death to its bearer. The druggist declined to fill it. In the course of the last year as many as fifteen cases of a similar kind have been brought to the attention of the Association.

Marine Hospital's Future.—It is now almost definitely settled that the Marine Hospital at Stapleton, Staten Island, is not to be rooted out of its venerable home there and transferred to Ellis Island. Dr. P. H. Bailhache, chief surgeon of the hospital, said to-day: "Why should the hospital and its patients be taken from such an ideal spot, overlooking the beautiful lower bay, and placed on a crowded island, so much nearer the city?" No one about the institution, from the chief surgeon down to the humblest patient, wanted to leave Stapleton, and emphatic denial was made of the recently published report that the Treasury Department officials at Washington had determined to enlarge Ellis Island by filling in on its southern shore. Originally it was suggested by Commissioner of Immigration Fitchie, that, with a slight enlargement of the island, the hospital, which comes under the jurisdiction of the Treasury Department, could be easily accommodated, and he recommended the appropriation of $100,000 by this Government to bring about the change, part of which was to go toward the construction of a modern hospital building. The present hospital and grounds are not owned by the Government, but are rented from the Marine Society of New York. Years ago it was the Old Seamen's Home, and was supported by a State tax of $2 a head on seamen. This was declared unconstitutional. Sick and disabled sailors of the merchant marine of the United States are here cared for, and there is an average of about 100 patients in the institution. Most of those admitted are afflicted with

rheumatism, fevers, or "specific diseases," and they are cared for by the hospital staff of six physicians and twenty-nine nurses and attendants. In addition to seamen, the hospital is required to treat the sick of the revenue-cutter, life-saving, coast and geodetic survey, and the light-house services, also the engineer corps of the army. Physical examinations of all applicants for admission to any of these departments are also conducted by the Marine Hospital surgeons. Four per cent. of those who apply for pilot licenses are found to be color-blind, and are accordingly rejected.

PHILADELPHIA.

Addition to St. Mary's Hospital.—The capacity of St. Mary's Hospital has been nearly doubled by the completion of the new wing begun in 1900. The addition contains private rooms, four general wards, operating-rooms, laboratory, etc., and has cost $100,000.

Trenton Insane Asylum to be Investigated.—The attendants and inmates of the New Jersey State Hospital for the Insane at Trenton have preferred charges against the management because of the food which is being furnished. The bill of fare is made up by the Board of Managers, and includes meat, vegetables and fruit. The complaint is that canned meats and practically no fruit is furnished. The hearing in the matter has been set for August 5th.

Lehigh Valley Medical Association.—The twenty-first annual meeting of the Lehigh Valley Medical Association was held in Mauch Chunk, July 25th. Dr. Chas. P. Knapp of Wyoming was elected President, and Dr. Charles MacIntyre of Easton was re-elected secretary. The winter meeting of the Society will be held at Wilkesbarre.

Transmission of Tuberculosis.—Physicians in this city are discussing with much interest the cabled reports of Koch's statements regarding tuberculosis. Local papers publish interviews with several men who are recognized authorities on the disease. Dr. J. Solis-Cohen favors the idea that the disease is not transmittable to human beings through tuberculous meat and milk, but states that it would be dangerous to take chances, and all diseased cattle should be killed. At the same time it would be a grand thing if some of the money expended by the Government to prevent the spread of tuberculosis among cattle could be expended for sanitariums. Dr. Cohen also states that there has been a decrease in the mortality of the disease in Philadelphia during the past thirty years. Formerly the deaths from tuberculosis were from one-fourth to one-fifth of the entire number. Now they are from one-sixth to one-seventh only. Dr. Lawrence F. Flick states that he has always believed that the danger of contracting tuberculosis from the milk and meat of tuberculous cattle, whilst it exists theoretically, amounts to nothing practically. Although he has for years sought for cases which could be traced unmistakably to contaminated meat and milk, he has never found one. He also believes that the greater number of cases in animals are contracted from human beings.

Tuberculosis and the Board of Health.—The Philadelphia Board of Health has taken no steps to enforce the resolution adopted by that body March 12th last, directing that "tuberculosis be hereafter included in the list of pestilential or contagious diseases required to be reported to the Health Office, etc." The President of the Bureau of Health states that no hasty action will be taken in regard to the enforcement of the resolution. Considering the attitude of other cities in regard to this question and the general war that is being waged against tuberculosis, it is rather noteworthy that this city has suspended a resolution adopted only after a most exhaustive consideration of the subject a few months since.

Failures Due to Commercialism.—Of the 407 candidates at the recent meeting of the State Medical Examiners, about 25 per cent. failed to obtain licenses. Dr. Henry Beates, Jr., President of the Board, gives the following reason for the large percentage of failures: "It is the commercialism in the medical schools. The papers of this examination prove that the medical colleges continue to admit students who are utterly illiterate; who cannot pass even the simplest rudimentary examination, and with whom medicine is a thing entirely beyond comprehension. That is the great defect. Just so long as the medical colleges admit men of little or no preliminary education, there must be a large percentage of rejections, and the granting by a college of a diploma to such a man is a fraud."

CHICAGO.

Prosecution of Dr. Betiero.—Dr. T. J. Betiero, who applied to Mayor Harrison a few days ago for a permit to bury a young man alive while in a hynotic state, has been sought by a summons taken out by the State Board of Health, alleging that Betiero's claim to be a regular physician is false.

Physicians Volunteer Aid.—Several physicians have volunteered their services in the tenement district during the summer. The list now numbers thirty nurses and doctors.

Chicago Maternity Hospital.—The directors of the Chicago Maternity Hospital would deem themselves most fortunate if Chicago generosity were to give their institution a good endowment fund. For five years it has struggled with a lack of funds, but in the midst of financial embarrassments it has continued to accomplish the purpose of its existence. It has afforded shelter, comfort, and the advantages of the best scientific treatment to several hundreds of women and children

who would have been exposed otherwise to the evil consequences that follow neglect. When one observes the character of the work done by this institution it becomes a matter of regret that it is altogether without endowment and is dependent for its support upon incidental or annual subscriptions. The officers of the hospital must be obliged to spend no inconsiderable part of their time in securing the uncertain income upon which the hospital subsists. That they should be thus diverted from their proper duties in the hospital itself must to some extent dissipate their energies and impair the quality of their work. With an endowment this difficulty would be removed. And there could be no place where an endowment would be used with greater immediate results. The hospital has passed the experimental stage. Its income could be applied at once to the uses that experience has shown to be most necessary. The man of wealth who should place the hospital beyond the reach of financial reverses would run no risk of seeing his money misappropriated. It would bring him large and quick returns.

Sterilized Milk for Children.—It may be weeks before the Health Department is able to secure the proper standard of purity in the milk supply of this city. Meanwhile the consumption of milk must continue, and must still be attended with danger. Unless the milk is subjected to some process by which animal and vegetable impurities are removed, it is not fit for invalids and young children. Even to the mature and the robust it is not without its evil effects: to the young and the weak it is likely to be fatal. It is in recognition of this state of things that some of the social settlements of Chicago have begun to provide their districts of the city with milk that has been sterilized in the settlements and is sold in is likely that many children will in this way be enabled to survive the summer. The milk is sterilized in the settlements and is sold in seven-ounce bottles at two cents a bottle, or two bottles for three cents. The selling price is low, but it is maintained at that level by the generosity of certain humane friends of the movement. The milk in its sterilized form has become popular in the neighborhoods where it has been tried, but its undoubted value has not yet received the wide recognition it deserves. The settlements concerned were obliged to attract the attention of adjacent districts by issuing cards in various languages. On these cards are described in lively terms the unwholesome qualities of the milk which often is sold in the tenement wards. It is eminently desirable that the sterilized milk should be used as widely as possible, and that throughout the city there should be a large number of depots from which it can be procured. An adequate supply of sterilized milk and a knowledge of its value, leading to the habit of using it, will do a great deal to decrease the number of deaths among young children during the hot weather. As Dr. F. W. Reilly, acting Health Commissioner, remarked the other day, one-third of the total number of deaths among infants and young children occur during July and August, and the cause is the fact that the hot weather spoils the milk. No more effective remedy could be devised than the use of milk that has been freed from all dangerous elements.

Health and Mental Strength Compared.—"Has the healthiest student the best mental equipment?" is the question which has been raised at the board of education. The answers have been so varied that the only question seeming to remain is whether the healthiest students from the normal school were given a mental test which was not in accordance with the lessons they had received at the normal school. There were 320 students from the normal school this year who expected to be made cadets in the public schools. An examination had to be held, however, outside of the tests in the normal schools because only 150 of the students could be placed as cadets. The 150 getting the highest marks were to be placed at once. Fred W. Smedley, director of pedagogical investigation, reported that the students from the normal school showed the highest physical development. He also said that the healthiest students also passed the best mental examinations. Yet when the mental test was held, the highest number of marks out of 100 made by these healthy students was about 72. The question then arose as to whether the examination had been based higher than the work done by the students in the normal school.

War Against Milk Dealers.—Names of milkmen whose supplies have been found below the grade required by law have been publicly posted on the bulletin by the Health Department. According to Secretary Pritchard, the tags that the law requires to be attached to cans containing skim milk offer no protection to customers. The tags are placed on the cans that remain in the milk wagon, while there is no indication on the smaller cans into which the milk is drawn for delivery that the cream has been removed.

GENERAL.

American Association of Orficial Surgeons.—The American Association of Orficial Surgeons will hold its next annual meeting in Chicago, September 18 and 19, 1901.

Spread of Bubonic Plague.—Despite the most rigorous measures of precaution, bubonic plague still persists in San Francisco. The thorough cleaning up of Chinatown under the supervision of the Federal authorities was completed on June 22d, and no cases of the disease appeared during the cleaning process, but it hardly had been finished when the infection broke out once more. Three cases

were discovered between July 6th and July 11th. All of them were fatal and were reported to the Marine Hospital Service in Washington.

Reports of increased mortality from bubonic plague continue to come in from United States Marine Hospital surgeons in nearly every part of the world. In Hongkong there have been 1,154 cases and 1,088 deaths, and the most rigid inspection of incoming and outgoing passengers and baggage is exercised. There were 155 deaths during the week ended June 11th. A large number of deaths daily are reported from Canton, China. Plague has been especially severe in the cities of Tung Kun and Sheck Lung on the East River. Plague is also reported from many cities in Egypt, from British India, Mauritius, Cape Colony and West Australia and Queensland. The epidemic is increasing alarmingly in Formosa, and Japanese ports are so dangerously threatened that active sanitary measures have been taken. Since May 12th, 5,716 deaths from bubonic plague in various parts of the world have been reported by United States officers. The appearance of cases of plague in the harbors of Seattle and New York is worthy of special attention.

Dr. Donaldson Resumes Practice.—Dr. Frank Donaldson, for many years a staff correspondent of the MEDICAL NEWS, has resumed the practice of his profession in Manitou, Col., and has leased Red Crag House and is ready to take a limited number of patients who are suffering from nervous breakdown or from heart or lung trouble. Phthisical cases in the first stages *only* will be received.

Damages for Breach of Secrecy.—Dr. Pader of Paris has been sentenced to pay a $50 fine and $200 damages for breach of professional secret. The plaintiff was suddenly taken ill at the house of the parents of his betrothed. The mother took the doctor apart and learned from him that the patient was a tuberculous subject. As this led to the breaking off of the marriage the patient filed the present claim.

Medical Society of the Missouri Valley.—The fourteenth annual meeting of this Society will be held at St. Joseph on September 19th and Eureka Springs September 20, 21st. One day's scientific session will be held in each city, and the last day will be devoted to sightseeing at the Springs. The scientific program promises to be full and varied. Among those to read papers are Drs. C. H. Hughes, Frank Parsons, Palmer Findley, C. E. Davis, J. W. Cokenower, W. Jepson, H. N. Moyer, F. B. Tiffany, E. S. Pettyjohn, LeRoy Crummer, J. H. Coulter and others.

Obituary.— Dr. George W. West died at the Columbian University Hospital, Washington, July 25th from the effects of the long-continued hot weather. He had been in the hospital nearly three weeks. He was overcome by the heat in his office on July 4th and his physical prostration was followed by delirium and, at times, by violent mental disorder. He was seventy years old and leaves a widow and several children.

Dr. Leonidas Russell, a medical examiner in the Pension Office and a veteran of the Civil War, died at his home in Washington on Friday night at the age of sixty-six years. He was born in Indiana, was graduated from the Jefferson Medical College, Philadelphia, and was practising at Owensboro, Ky., when the Civil War broke out. He served as assistant surgeon to the Second Kentucky Volunteers and was severely wounded in the battle of Shiloh. Dr. Russell afterward served in the Tennessee Legislature and was appointed in the Pension Office in 1885.

Dr. William Argyle Watson, who up to within two years practised medicine in New York, died at his home in Newport, July 27th, at the age of seventy-four years. At the outbreak of the Civil War Dr. Watson entered the navy as a surgeon and rendered valuable services in the Gulf of Mexico. After the war he practised in New York. He belonged to many social and patriotic organizations, his greatest interest being in the Society of the Cincinnati.

Dr. Adam Miller, one of the oldest physicians in Chicago, died Sunday at the age of ninety-one years. Early in life he was a preacher and is said to have been the oldest minister of the Methodist Episcopal Church. During the Civil War he was the family physician of Governor Richard Yates, Sr. As a scientist, particularly as an astronomer, Dr. Miller had an enviable reputation. One of the earliest diplomas issued by the medical school of the University of New York was given to him, under date of 1847. He was born in Maryland, and in 1862 went to Chicago.

Dr. Gilbert E. Palen died of pneumonia Sunday afternoon, July 28th, at his summer home in Ocean City, N. J. He was born May 3, 1832, at Palenville, N. Y., and came of Dutch ancestry. He was graduated from Yale with the class of 1853, and from the Albany Medical College in 1855. Dr. Palen settled in Philadelphia in 1877, and for many years practised medicine in Germantown. Subsequently he engaged in the manufacture of medicines.

CORRESPONDENCE.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

ECLAMPSIA AND ITS RELATIONS TO THE THYROID GLAND.

H. O. NICHOLSON, at the Edinburgh Obstetrical Society, June 12, 1901, read a paper on eclampsia and its relations with the thyroid gland. During pregnancy the blood undergoes an increase in volume and a decrease in the relative proportion

of the solid elements, with a resultant falling of the specific gravity. The red blood-cells and the amount of albumin were both much diminished relatively, while the white blood-corpuscles underwent a proportionate augmentation. After thyroidectomy the blood undergoes precisely a similar change. There are other modifications of the blood in pregnancy than those mentioned. The chief one is a toxemia due directly to fetal metabolism. As the child grows older *in utero* this metabolism is more active and the toxicity of the maternal blood continually increases, so that the more advanced the period of gestation the narrower the margin of safety for the mother. Any little cause like unsuitable diet, especially chiefly a proteid one, might upset this balance against the mother and bring on the symptoms of eclampsia. A sudden chill or a cold or anything tending to congest the kidneys would act in the same manner. In pregnancy there is also hypertrophy of the cardiac muscle, and of the muscular coats of the arteries with a distinct rise in the blood pressure. It has been suggested that this tension is also due to the toxicity of the blood. The theory of true toxemia as the basis of eclampsia is now that held by the majority of obstetricians and urges for itself the following points: (1) In every case of pregnancy more or less toxemia is present, which tends to increase as the gestation advances; (2) although the fundamental factor of all eclampsia is a toxic agent, there is no constancy therein, because there is undoubtedly a variety of type in eclampsia and must therefore be several variations of the poisonous agent; (3) the toxins are produced more abundantly in some than in other cases (twin pregnancies, for example) and act as a rule more intensely in primiparæ than in multiparæ; the reasons may be that in the primiparæ mechanical pressure on the renal vessels and in the multiparæ an acquired immunity from the preceding gestations very likely obtain; (4) in spite of the toxins no alarming symptoms will occur so long as the elimination of the toxins by the kidneys is sufficiently active. As to the precise nature of the poison and as to precisely where it is formed ignorance still prevails, but it seems probable that the fetus contributes a certain share of it, because at the death of the fetus alarming symptoms usually abate. If the fetus is one or the really chief producing agent, then it is likely that nothing can be done to limit the occurrence of the poison and that in order to prevent eclampsia the elimination of the body must be maintained at its full activity, especially of the kidneys. Anything which caused renal arrest also would promptly produce the symptoms of eclampsia. Consequently the whole secret of treatment, both prophylactic and curative, was vested in finding and correcting such cause of the arrested renal function. What is it that in the midst of normal elimination suddenly threw the kidney out of gear? Lange has noted that in twenty-five pregnancies in which the normal hypertrophy of the thyroid gland did not occur, albuminuria was present in 20. Large doses of thyroidin were administered to women in whom the normal enlargement of the thyroid gland had occurred physiologically and a marked decrease in the size of the gland appeared at once. One might conclude therefore that the usual enlargement of this gland is a normal process with the purpose of meeting the demands of increased metabolism. With a continuous supply by medication of thyroidin this demand for hypersecretion was eliminated and the gland soon resumed its normal proportions. Hallion has also observed the same phenomenon and Murray acting on the same theory gave thyroidin to certain cases of goiter with marked success. Lange also gave thyroidin to a patient with pathological enlargement of the thyroid gland and that again a diminution occurred. The exhibition of large doses of this extract are not contra-indicated and no atrophying effects upon the child had been observed. In patients suffering from the albuminuria of pregnancy thyroidin acted as a certain diuretic. The author then gave the history of a multipara who in her two preceding pregnancies had had fits and in the third had gone through the first six months uneventfully, but during the seventh set up albuminuria with headache, giddines, amaurosis, general edema and puffiness. She was put to bed on a milk diet and given a diuretic mixture. During the eighth month she had a seizure which was treated with bromides and chloral. The urine was scanty and solid with albumin on boiling. Sphygmographic tracings of both radial arteries showed contracted vessels and high-tension pulse. The next day thyroid tabloids were begun and at first two, then three a day were given. After three weeks she was again about the house, with entirely normal urine and almost all of the symptoms gone. Twelve days later she gave birth to a full-term living healthy child without any untoward symptoms and with an uneventful recovery. The albuminuria did not again show itself. The edema in this woman was not of the usual type seen in dropsy, but was very general, dense and pitted only on prolonged and firm pressure. It strongly suggested true myxedema. The albuminuria was doubtless of toxic origin. This toxemia would first lead to an increase in the arterial tension and then if long enough continued would induce albuminuria. If hypuresis occurred and persisted, then eclampsia would soon follow with its usual prodromic symptoms of headache, vertigo, amaurosis, etc. Diuresis however produced had a tendency to delay the eclamptic symptoms. Hypuresis at the later period of pregnancy might be regarded as a danger point. Edema and albuminuria were not always present. A still more constant sign of danger would be continued, small, high-pressure pulse, unless accompanied by a free diuresis. Symptoms such as these might be and often are produced by defective action of the thyroid gland. Iodothyrin increases the excretion of the urea and also the other body processes. Thyroid extract has a distinct diuretic

effect on the diseased kidney, although quite negative on the healthy. It also lowers the blood-pressure and dilates the arteries. The internal secretion of the suprarenal bodies has the opposite effect and one may assume that their combined action results in a certain arterial tone. If the thyroid secretion were to become decreased, then the unchecked activity of the suprarenal bodies would be very profound in the kidneys as elsewhere. In the early stages when the pulse begins to get tense and the urine scanty, thyroid extract should be given twice or thrice daily. Iodide of potassium has been used as a specific against these early stages of eclampsia and probably acts by its iodine. This was picked up by the thyroid gland and converted into iodothyrin. It has even been suggested to give infusions containing potassium iodide instead of sodium chloride. If the convulsions have already begun mouth administration of thyroid extract would be too slow. Then fresh thyroid juice or liquor thyroidii in ten- to fifteen-minim doses should be given hypodermatically and repeated until the improvement begins. For the immediate treatment of eclampsia morphia is perhaps the best single remedy, because it not only controls the convulsions, but inhibits metabolism so that the thyroid gland can recover itself. The dose must be large, not less than half a grain to begin with. Eclamptic patients resist the poisonous effects of the drug in a remarkable way. Doses of one and one and a half grains have been given without any undesirable results. It relieves the spasm of the arteries and lowers the blood-pressure. Saline infusions have been much praised. Probably its earliest effect is to relax the arterial tension and thus produce diuresis.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, July 20, 1901.

THE ROYAL MEDICAL BENEVOLENT COLLEGE, EPSOM—ITS FESTIVAL DINNER—DOCTORS AND DIET—LORD ROSEBERY AS AN AFTER-DINNER SPEAKER—HIS MEDICAL ANCESTRY—OTHER PEERS DESCENDED FROM DOCTORS—EPSOM COLLEGE: ITS PUPILS AND PENSIONERS—THE NATIONAL HOSPITAL FOR THE PARALYZED AND EPILEPTIC.

ON July 9th was held the twenty-eighth festival dinner of the Royal Medical Benevolent College, Epsom. Lord Rosebery, the President of the College was in the Chair, and between three and four hundred members of the medical profession were present. Among them were some of the shining lights of our professional firmament, such as Sir R. Douglas Powell, Sir William Broadbent, Dr. Pavy, Professor Clifford Allbutt of Cambridge, Dr. W. S. Playfair, Sir John Williams, Mr. Christopher Heath and Mr. Jonathan Hutchinson. The object of the dinner was to get money to wipe off a considerable debt, and subscriptions to almost double the amount required were announced. Lord Rosebery, who had his physician, Sir William Broadbent, on his right, must have felt like Sancho Panza when he dined in state as Governor of Baratoria with his chief physician standing behind him with a wand to indicate vetoed dishes. Broadbent, however, is not a "starving doctor," as the late Sir Andrew Clark used to be described; and, although Lord Rosebery expressed some natural anxiety at having to dine in the presence of so many authorities on diet, they made the task easier for him by openly defying their own precepts. This paradoxical feature of the medical character did not escape the notice of that keen *censor morum*, Thackeray, who at dinner, public and private, took a malicious pleasure in seeing physicians eat freely of all the meats they condemned in the consulting-room as dangerous to the internal peace of man. To me these medical dinners recall the remark of Cicero about the Roman soothsayers, for it must be hard for one great authority on diet to preserve his professional gravity in the presence of another when both are conscious of having broken all their own dietetic laws. To return, however, to Lord Rosebery. He is a capital after-dinner speaker with the light touch that prevents that species of oratory from being a nightmare, as it too often is in this country. He is a many-sided man, having been Prime Minister, having written more than one successful book, and above all having won the Derby—"the blue ribbon of the turf"—in two successive years. It was characteristic of our race that when the speaker who proposed the health of the Chairman spoke of Lord Rosebery as a sportsman, the applause was loudest and longest.

Lord Rosebery spoke of the medical profession as "one of the noblest, if not the noblest, of all professions." It is somewhat remarkable, however, that he did not refer to his own medical ancestry. Gilbert Primrose who was principal surgeon to James VI. of Scotland was the elder brother of Archibald Primrose from whom the Earls of Rosebery are descended. A son of Gilbert Primrose was a well-known physician who practised at Hull in the seventeenth century and the author of several books which achieved a considerable measure of popularity. Among them is a "refutation" of Harvey's work on the circulation of the blood. His objection to Harvey's teaching may not have been altogether unbiased, for the discoverer of the circulation was one of those who examined him for the license of the London College of Physicians.

Lord Rosebery, by the way, is not the only member of the British Peerage with a medical ancestry. Our present Secretary of State for Foreign Affairs, the Marquis of Lansdowne, is descended from Sir William Petty who was Physician General of Cromwell's forces in Ireland during the Commonwealth. Petty was a graduate of Oxford and one of the founders of the Royal Society. Besides being one of the first physicians of his day he won fame and fortune as a mechanical inventor and laid the foundations of the science of political economy in his work on

Political Arithemetick. The Duke of Northumberland, the nominal head of the ancient family of the Percies, famous in history and in legend, is not a Percy at all. The peerage became extinct in the male line early in the eighteenth century, and the heiress of the Percies bestowed her heart and hand on a physician named Smithson. To this unfortunate son of Æsculapius the honors of his wife's family were allowed to pass, and the sons of Smithson have since worn the coronet of the Percies. The present Lord Knutsford is the grandson of Sir Henry Holland, a fashionable physician of the early Victorian age. A story is told of Holland that on paying his usual professional call one day on a *grande dame de par le monde,* as old Brantôme would have said, he was informed by the hall porter that her ladyship was very sorry but she was too ill to see him. Another story is that once when Lord Palmerston had been ill some one called to inquire and met his physician, Dr. Robert Ferguson, coming out. On being asked how the famous statesman was the doctor replied, "Well, I can't give you a better proof that he is going on well than the fact that I have just taken my last fee, and Holland is to take over the case." Holland was, however, a practitioner, of great shrewdness and good sense, although never having been on the staff of a hospital, and he knew little of medicine in the technical sense. He married a daughter of Sydney Smith, one of the founders of the *Edinburgh Review* and, like Yorick, a fellow of infinite jest; Lord Knutsford has, therefore, a better ancestry than if he were the

"Tenth transmitter of a foolish face."

In the eighteenth century there practised in Edinburgh a physician named Somerville, who might have styled himself Lord Somerville had he so chosen, but like the tenth or eleventh Lord Fairfax, who recently passed away somewhere in the United States, he preferred the single prefix of "Dr."

I have drifted away from Epsom College about which, perhaps, your readers might like to know something. Founded originally as a school for the sons of medical men, it has blossomed out into a high class public school which prepared boys to take up any professional study they pleased. This it does more cheaply, but not less efficiently than the great schools of Eton, Winchester, Harrow and Rugby. There are two hundred and fifty boys at Epsom school, and as Lord Rosebery, who is their near neighbor, said the other night, no finer lads are to be seen anywhere. They win many scholarships and prizes at the Universities and medical schools and several men who stand high in the medical profession received their preliminary education at Epsom. Fifty scholars, mostly orphans of medical men, are educated, boarded, and clothed by the College free of all cost, and on leaving school get a scholarship or a grant to start them on their way. A part of the Epsom foundation, but distinct from the school, is a fund for medical men past work and in need of help, or the widows of such. There are fifty-nine pensioners who receive $150 a year each, and several recipients of smaller annuities. It is not much in proportion to the number of poor broken-down doctors to be relieved. But altogether Epsom is an institution of which the medical profession may be justly proud.

The affairs of the National Hospital for the Paralyzed and Epileptic seem to be nearing a settlement. At a meeting held on July 7th, the report of the Committee of Inquiry which, as I have already informed you, was on all essential points in favor of the staff, was adopted unanimously. The Secretary-Director whose autocratic methods of administration were the principal cause of the trouble has resigned, and a Committee of Organization was formed to draw up a scheme for the better management of the hospital. An essential feature in any scheme for that purpose, if it is to find favor with the medical staff, is the dissolution of the present Board of Management which is really responsible for the misdeeds of the Secretary-Director. Whether the staff will have its way in this matter remains to be seen.

SOCIETY PROCEEDINGS.

BRITISH CONGRESS OF TUBERCULOSIS.

SECOND DAY—JULY 23D.

As indicated in last week's MEDICAL NEWS, the Tuberculosis Congress, held in London, opened with much éclat, on July 22d, and gave promise to being a very successful as well as practical Congress.

Fight Against Tuberculosis.—This was the subject taken up by Dr. Robert Koch in the first general session held in St. James' Hall. It was delivered before an immense audience and was received with serious attention. He said that the fight against tuberculosis in the light of the facts gained in the contest with other infectious diseases offered great hope for the future and the work of the present Congress was a great step in this direction. It need not be emphasized what frightful ravages are yearly being wrought by the tubercle bacillus and when it is borne in mind that the disease is a preventable one it seems strange that it cannot be eradicated. Yet such is that inertia of deep-rooted habits that it needs the united efforts of the entire medical profession to force the attention of the lay mind to the realization of the important elements in the struggle.

Specific Needs for Different Diseases.—The most important lesson learned from this experience is that it is a great blunder to treat pestilences according to a general scheme. This was done in former times; no matter whether the pestilence in question was cholera, plague, or leprosy, isolation, quarantine, useless disinfection were always resorted to. But now it is known that every disease must be treated according to its own special individuality, and that the measures to be taken against it must be most accurately

adapted to its special nature, to its etiology. Success in combating tuberculosis is hopeful only if this lesson is kept constantly in view. The plague, cholera, hydrophobia and leprosy were discussed in turn, showing how the specific infectious agent in each was communicated in a different manner and the only efficient means of prevention was one that took this most important element into full account.

Sputum in Tuberculosis.—This, Dr. Koch holds, is the most important factor in the dissemination of tuberculosis. In by far the majority of cases of tuberculosis the disease has its seat in the lungs, and has also begun there. From this fact it is justly concluded that the germs of the disease, that is, the tubercle bacilli, must have got into the lungs by inhalation. As to the question where the inhaled tubercle bacilli have come from, there is also no doubt. On the contrary, it is known with certainty that they get into the air with the sputum of consumptive patients. This sputum, especially in advanced stages of the disease, almost always contains tubercle bacilli, sometimes in incredible quantities. By coughing, and even speaking, it is flung into the air in little drops, that is, in a moist condition, and can at once infect persons who happen to be near the coughers. But it may also be pulverized when dried, in the linen or on the floor, for instance, and get into the air in the form of dust. In this manner a complete circle, a so-called *circulus vitiosis*, has been formed for the process of infection from the diseased lung, which produces phlegm and pus containing tubercle bacilli, to the formation of moist and dry particles (which, in virtue of their smallness, can keep floating a good while in the air), and finally to new infection, if particles penetrate with the air into a healthy lung and originate the disease anew. But the tubercle bacilli may get to other organs of the body in the same way, and thus originate other forms of tuberculosis. This, however, is considerably rarer. The sputum of consumptive people, then, is to be regarded as the main source of the infection of tuberculosis. The question arises whether there are not other sources too, copious enough to demand consideration in the combating of tuberculosis. Great importance used to be attached to the hereditary transmission of tuberculosis. Now, however, it has been demonstrated by thorough investigation, that, though hereditary tuberculosis is not absolutely non-existent, it is nevertheless extremely rare and in considering practical measures this form of origination may be left entirely out of account.

Human and Bovine Tuberculosis.—This must be considered the central theme of Dr. Koch's address and the discussion which arose was most active about the ideas set forth. He said that it has been very extensively held that the tubercle bacillus might be conveyed from animals suffering from tuberculosis to man. General tuberculosis, he admits, is common in most animals, but his investigations had led him to take the position that bovine tuberculosis and human tuberculosis were different diseases and were not intercommunicable; especially he held that human tuberculosis probably did not give rise to bovine tuberculosis. In this connection he said that even in his first circumstantial publication on the etiology of tuberculosis he expressed himself regarding the identity of human tuberculosis and bovine tuberculosis with reserve. Proved facts, which would have enabled him sharply to distinguish these two forms of the disease, were not then at his disposal, but sure proofs of their absolute identity were equally undiscoverable, and he therefore had to leave this question undecided. In order to decide it, he repeatedly resumed the investigations relating to it, but so long as he experimented on small animals, such as rabbits and guinea-pigs, he failed to arrive at any satisfactory result, though indications which rendered the difference of the two forms of tuberculosis probably were not wanting. Not till the complaisance of the Ministry of Agriculture enabled him to experiment on cattle, the only animals really suitable for these investigations, did he arrive at absolutely conclusive results. Of the experiments which he has carried out during the last two years along with Professor Schütz, of the Veterinary College in Berlin, the following are some of the most important: A number of young cattle which had stood the tuberculin test, and might therefore be regarded as free from tuberculosis, were infected in various ways with tubercle bacilli taken from cases of human tuberculosis; some of them got the tuberculous sputum of consumptive patients direct. In some cases the tubercle bacilli or the sputum were injected under the skin, in others into the peritoneal cavity, in others into the jugular vein. Six animals were fed with tuberculous sputum almost daily for seven or eight months; four repeatedly inhaled great quantities of bacilli, which were distributed in water, and scattered with it in the form of spray. None of these cattle (there were nineteen of them) showed any symptoms of the disease, and they gained considerably in weight. From six to eight months after the beginning of the experiments they were killed. In their internal organs not a trace of tuberculosis was found. Only at the places where the injections had been made small suppurative foci had formed, in which few tubercle bacilli could be found. This is exactly what one finds when one injects dead tubercle bacilli under the skin of animals liable to contagion. So the animals we experimented on were affected by the living bacilli of human tuberculosis exactly as they would have been by dead ones; they were absolutely insusceptible to them. The result was utterly different, however, when the same experiment was made on cattle free from tuberculosis with tubercle bacilli that came from the lungs of an animal suffering from bovine tuberculosis. After an incubation period of about a week the severest tuberculous disorders of the internal organs broke out in all the infected animals. It was all one whether the infecting matter

had been injected only under the skin, or into the peritoneal cavity or the vascular system. High fever set in, and the animals became weak and lean; some of them died after a month and a half to two months, others were killed in a miserably sick condition after three months. After death extensive tuberculous infiltrations were found at the place where the injections had been made, and in the neighboring lymphatic glands, and also far advanced alterations of the internal organs, especially the lungs and the spleen. In the cases in which the injection had been made into the peritoneal cavity the tuberculous growths which are so characteristic of bovine tuberculosis were found on the omentum and peritoneum. In short, the cattle proved just as susceptible to infection by the bacillus of bovine tuberculosis as they had proved insusceptible to infection by the bacillus of human tuberculosis.

Desirability of Commission to Investigate This Point.—These experiments with others led Koch to express the hope that a Commission might be appointed to investigate this question thoroughly.

Can Man be Infected from Cattle?—With reference to the more important question, Is it possible for cattle, suffering from tuberculosis to infect man? he said that it is impossible to give this question a direct answer, because, of course, the experimental investigation of it with human beings is out of the question. Indirectly, however, one can try to approach it. It is well known that the milk and butter consumed in great cities very often contains large quantities of the bacilli of bovine tuberculosis in a living condition, as the numerous infection experiments with such dairy products on animals have proved. Most of the inhabitants of such cities daily consume such living and perfectly virulent bacilli of bovine tuberculosis, and unintentionally carry out the experiment which investigators are not at liberty to make, If the bacilli of bovine tuberculosis were able to infect human beings, many cases of tuberculosis caused by the consumption of alimenta containing tubercle bacilli could not but occur among the inhabitants of great cities, especially the children. And most medical men believe that this is actually the case. In reality, however, it is not so. That a case of tuberculosis has been caused by alimenta can be assumed with certainty only when the intestine suffers first—that is, when a so-called primary tuberculosis of the intestines is found. But such cases are extremely rare. Among many cases of tuberculosis examined after death, Koch remembers having seen primary tuberculosis of the intestine only twice. Among the great postmortem material of the Charité Hospital in Berlin ten cases of primary tuberculosis of the intestine occurred in five years. Among 933 cases of tuberculosis in children at the Emperor Frederick's Hospital for Children, Baginsky never found tuberculosis of the intestine without simultaneous disease of the lungs and the bronchial glands. Among 3,104 postmortem examinations of tuberculous children, Biedert observed only sixteen cases of primary tuberculosis of the intestine. From the literature of the subject many more statistics of the same kind could be cited, all indubitably showing that primary tuberculosis of the intestine, especially among children, is a comparatively rare disease, and of these few cases that have been enumerated, it is by no means certain that they were due to infection by bovine tuberculosis. It is just as likely that they were caused by the widely propagated bacilli of human tuberculosis, which may have got into the digestive canal in some way or other—for instance, by swallowing saliva from the mouth. Hitherto nobody could decide with certainly in such a case whether the tuberculosis of the intestine was of human or of animal origin. Now the diagnosis can be made. All that is necessary is to cultivate in pure culture the tubercle bacilli found in the tuberculous material, and to ascertain whether they belong to bovine tuberculosis by inoculating cattle with them. For this purpose he recommends subcutaneous injection, which yields quite specially characteristic and convincing results. For half a year past he has occupied himself with such investigations, but, owing to the rareness of the disease in question, the number of the cases he has been able to investigate is but small. What has hitherto resulted from this investigation does not support the assumption that bovine tuberculosis occurs in man.

Though the important question whether man is susceptible to bovine tuberculosis at all is not yet absolutely decided, and will not admit of absolute decision to-day or to-morrow, one is nevertheless already at liberty to say that, if such susceptibility really exists, the infection of human beings is but a very rare occurrence. He estimated the extent of the infection by the milk and flesh of tuberculous cattle, and the butter made of their milk, as hardly greater than that of hereditary transmission, and he therefore does not deem it advisable to take any measures against it.

Notification, Hospitals and Education.—Koch then went on to consider the desirability of notification of tuberculous patients to boards of health, the establishment of sanatoria, measures of disinfection and education of the public to the real dangers. In this latter connection he took occasion to praise highly the excellent work of Dr. Hermann M. Biggs and the enlightened policy of the New York Board of Health with reference to the practical measures in force looking to the education of the public on the subject of this disease. Much discussion was aroused by the reading of Dr. Koch's paper, most of which was antagonistic to his conclusions relative to the non-contagiousness, for man, of bovine tuberculosis. The matter, however, was one of evidence and the best way to settle the question was to have a commission appointed. This, it was announced by Sir Crichton Brown Tuesday evening, had been done by the British Government.

International Legislation and Notification.—This was the central theme of the paper read by Professor Brouardel of Paris. That tuberculosis

was a preventable disease no one at the present time denied. Any measures tending to limit the ravages of alcoholism would diminish the mortality from consumption. He referred to the great danger in hawking pieces of meat in public places and in the sale of milk which had not been examined. Professor Brouardel believed these dangers could be remedied by legislation. He said that the measures needed for the prevention of tuberculosis were identical in every country, and the first step in this direction was to render unhealthy dwellings and districts salubrious. A healthy house, he said, was antituberculous. He complimented the United States on its quick realization of the danger of expectoration, and on its legislation in the matter. He said once this habit had quite disappeared, tuberculosis would decrease rapidly. He dissented very radically from the views of Dr. Koch anent the difference of bovine and human tuberculosis, and also declared that the ministers of finance of the various countries should deduct from the revenue derived from the tax on alcohol, the cost of the ruined drunkard and his degenerate children who must be sheltered.

Treatment of Tuberculosis by Climate.—In the Section on Medicine, Dr. C. Theodore Williams of London gave the introductory address on this subject. The questions to be discussed were: (1) What influences has climate on the treatment of tuberculosis? and (2) how far can cases be grouped for treatment in certain climates? Both of these questions he discussed very fully. The belief that has existed in all ages that the disease is curable by climate is, he thinks, justified by the results of such treatment. Under what climatic conditions, he asks, is arrest of the disease most common? What are the real causes of such improvement and how can they be successfully brought into play? In all climatic treatment, of course, care must be taken to bring the patient fully under the influence of the atmosphere, and to endure a strictly open-air life by day and by night, with complete hygienic and sanitary surroundings, whether in a sanatorium or elsewhere.

Not All Climates Avail.—But all climates favoring an open-air life are not necessarily suitable for the treatment of consumption; tropical lands must be excluded, because there the appetite is diminished, the nervous and muscular energy depressed, excessive action from the skin induced, and requisite exercise prevented. Bacillary increase is probably also favored. Very moist climate and those in which the sun is often obscured by mist and fog, even though mild, are undesirable, as sunshine is of the greatest importance to the consumptive. The climate which best fulfils the conditions for open-air treatment need not be a very warm nor a very cold one, but should be dry and stimulating, with abundant sunshine, admitting of much exercise, and producing nervous and muscular vigor.

The Classification of Climates.—Climates, he said, must first be classified before they are described, and though it would be possible to arrange them scientifically on the basis of meteorology, as attempted in the Lumleian Lectures before the College of Physicians, for the purposes of this discussion a few practical groups will be preferable. These are (1) marine climates; (2) dry, warm climates, partly inland and partly marine; (3) mountain climates. Marine climates include (*a*) the British and Irish sea coast resorts; (*b*) the warm marine climates of Madeira, Teneriffe, and the West Indies; (*c*) Sea voyages. Dry, warm climates, the desert climates, and those of the Mediterranean basins, differing in many particulars, but both characterized by warmth and dryness. Mountain climates characterized by the influence of diminished barometic pressure. The climates discussed were those practical to use from England rather than from the United States and their extended description is here omitted. He spoke particularly in praise of extended sea voyages, especially voyages to Australia and New Zealand and around the Cape of Good Hope in clipper ships. They are most beneficial (1) in cases of hemorrhagic phthisis, where large hemorrhage accompanies small areas of tuberculization; (2) in scrofulous or strumous phthisis, where lung disease is accompanied by strumous gland or joint affections; (3) in cases of chronic cavity, where the tuberculous disease is unilateral and quiescent. To ensure the success of a sea voyage, the patient must be certain of (1) good and abundant food, (2) proper cabin ventilation, also (3) that the cruise be principally in temperate climes and not in tropical. Of the dry, warm climes the Egyptian desert is highly commended. With reference to the Riviera, the cases which do best there are (1) phthisis in which inflammatory processes have played a large part in predisposing to the disease; (2) strumous phthisis; (3) laryngeal phthisis; (4) unilateral pulmonary tuberculization rather than bilateral; (5) the large class of consumptives who either from extent of disease or feebleness of circulation, or advancing years, are unable to endure the rarefied atmosphere and cold of the high altitudes. Most of these patients love warmth, and cannot take enough exercise when the thermometer is below zero to maintain it. With reference to mountain climates his conclusions were as follows: (1) The respiration of the rarefied atmosphere produces hypertrophy of the healthy lung and local pulmonary emphysema around the tuberculous lesions, giving rise in due time to thoracic enlargement. (2) It is possible the arrest of tuberculous disease is at least partly due to the pressure exercised in the tuberculous masses by the increasing bulk of the surrounding lung tissue, which by emptying the blood-vessels promotes caseation and cretefication of the tubercle. (3) These changes are accompanied by general improvement in digestion and assimilation, the cessation of all symptoms of disease, the return of natural functions, by gain of weight, of color, of nervous and muscular activity, and of respiratory and circulatory power. (4) Arrest of disease

takes place in 58 per cent. of the tuberculization cases, and great improvement in 87 per cent. In excavation cases arrest occurs in 21 per cent. and great improvement in 61 per cent. (5) The climate is specially beneficial in hemorrhagic phthisis, and phthisis in which hereditary predisposition is strongly marked, and is well suited to chronic tuberculosis of the lungs in general, provided the extent of lung involved is not too large nor the disease accompanied by much fever. (6) Males and females seem to do equally well and to profit most between the ages of twenty to thirty. Males over forty and females under twenty benefit least. (7) The climate is contraindicated in acute phthisis, catarrhal phthisis, in laryngeal phthisis, in cases of phthisis accompanied by great nervous irritability in patients with double cavities, with fibroid phthisis, and in all patients whose pulmonary surface has been so much reduced from any cause that it does not suffice for complete respiratory purposes.

Classification of Cases.—Dr. Burney Yeo of London took up the second query as to what kinds of cases are best treated on climatic lines. He said that the main objects of treatment in pulmonary tuberculosis are (*a*) to arrest catarrhal conditions of the air-passages; (*b*) to improve nervous and circulatory tone; (*c*) to increase the activity of the digestive functions, and thus stimulate nutrition by promoting the desire and increasing the power to take exercise; (*d*) to raise the moral tone—by no means an unimportant matter—by affording a clear, bright, and cheerful environment; (*e*) to diminish by its asepticity bacterial activity.

Open-Air Treatment: New and Old.—It must be a question for consideration whether so-called "open-air treatment," without regard to suitable climatic conditions, will do all this. It should be the object when practicable to place the consumptive patient under conditions and in circumstances where, without risk or injury, he may obtain the most complete and perfect aeration of the lungs possible. The difficulties in the way of finding suitable hiding-places for the tuberculous were pointed out and Dr. Yeo cited some marvelous "cures" which occurred in patients who never left London. Many chronic stationary cases with fair general health travel about to different winter resorts with successive seasons and take no harm in doing so.

Dr. Yeo objects to the terms "incipient" phthisis and "pretuberculous" phthisis, since many mean by such "suspected" phthisis and as such are often reported cured by this or that procedure, when, in fact, they have never had tuberculosis at all. Such cases detract very largely from the value of statistics, if they do not entirely vitiate them. He advocates the expression "early" phthisis.

The Influence of Climate on Consumption.—The answer to the first part of the question, Dr. Yeo suggests, will be that a suitable climate (*a*) relieves or removes catarrhal conditions accompanying the disease in a number of cases; (*b*) it raises nervous and vascular tone; (*c*) it increases muscular energy and the ability as well as the desire for exercise; (*d*) by rendering an open-air life possible, it increases the aeration of the lungs and diminishes the activity of bacterial agencies, one of the most essential conditions of arrest and cure of the disease; (*e*) it improves the tone and promotes the activity of the digestive functions, and so enables the patient to take the large amount of food which is needed to heighten his state of nutrition; (*f*) and, finally, it improves the moral and mental state by surrounding the patient with a bright, cheerful, and hopeful environment.

The Grouping of Cases.—Then, as the answer to the second part of the question, he says: (1) Cases seen at the very commencement of the disease, and who are otherwise in good health, may be permitted a certain amount of choice in the selection of a climate, provided it allows of many hours being spent daily in the open air, and that they are placed under admittedly hygienic conditions. A choice may be made from climates of altitude, the desert climate, the inland plateaux of South Africa, the sea voyage for those with a decided liking for the sea, and suitably placed sanatoria. (2) For progressive febrile cases, repose in bed or on a couch at home, in the best conditions practicable for the free access of air and sunshine to their apartments. (3) For advanced cases home is best if the conditions of home life is favorable, or the warm marine climates with cheerful surroundings if home life is unfavorable or change is urgently desired. (4) For catarrhal cases warm, soothing climates like Madeira or Teneriffe are best. (5) For rheumatic or gouty cases of the fibroid or pleurogenic type—dry, marine climates or the desert climate are most suitable. (6) For the so-called "scrofulous cases," if free from catarrh, fairly bracing marine climates; if with catarrh, mild marine climates should be prescribed. (7) For most other moderately advanced cases, with the limitations already mentioned, the climate of the high mountains, above the cloud belts, is the most curative.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held May 7, 1901.

The President, Joseph Collins, M.D., in the Chair.

A Case of Successful Moral Treatment of a Form of Hysteria.—Dr. Mary Putnam Jacobi reported this case. The patient was a woman, twenty-four years of age, belonging to a neurotic family. Her symptoms had begun four years before coming under observation with an endometritis and a uterine retroflexion. She had been subjected to a good deal of local treatment, including curettage and an Alexander's operation. The latter procedure had relieved the dysmenorrhea, but had been followed by a fixed pain in the abdomen not increased by pressure. She claimed to be unable to walk or stand because of severe pain in

the back and abdomen which it induced. Examination showed no motor inability, and when started she could walk very readily and energetically. The uterine disease had entirely disappeared. She was moderately anemic and quite constipated. The speaker said that at some portion of the cerebrospinal tract an area of nerve tissue must be so nearly on the border of exhaustion that an attempt at function carries it beyond this line. It was conceivable that with the exhaustion of the cerebral center the very thought of the movement would be followed by pain. According to Sanier, such hysterical pains point to a partial anesthesia in the brain. Apart from the intermittent pains excited by the sense of walking, there seemed to be a permanent and distressing sense in the back of requiring support. In a previous experience with a bedridden patient she had succeeded in making her walk within a week by the application of a Taylor spinal brace. This simple device had given great relief. The necessary nerve stimulus had been secured by the application of static electricity. This remedy seemed to be almost a specific for hysterical pains. The subject of the present report had been persuaded to leave her home and take a room near Dr. Jacobi's office. At first it was not difficult to get her to walk a portion of a block, but when finally asked to walk a whole block she obstinately refused. All sorts of changes in the treatment and methods of management were necessary in order to conquer the patient's wilfulness, yet this was essential to further progress. Her mode of life for each day was mapped out most minutely. By the most persistent and painstaking efforts exerted for a period of four months the patient was finally conquered. During the last eighteen months she had been living a fairly normal life. Dr. Jacobi said that in hysterics the habitual dependence upon fellow minds is immensely intensified. To get rid of a false idea, it must be starved out and atrophied by an entire lack of support from the minds of those around the patient. The essential element of the treatment of this case was the bringing of the personality of the patient under the control of another mind.

Dr. B. Sachs commended the general plan of treatment described in this paper, though admitting that it required far too much expenditure of time and attention to detail to make it generally available.

Psychological Method.—Dr. Ira Van Gieson expressed his admiration for the report just presented, for, he said, it was an earnest of the time when psychological cases would be treated less by medicine and more by psychology. This case afforded an example of what could and should be done in hundreds and thousands of other similar cases. He had been particularly impressed with the statement made concerning the necessity for causing an atrophy of each false idea—the reverse of the process by which the hysterical condition is induced. He thought the period of treatment in the case reported might perhaps have been materially reduced by suggestive therapeutics.

Dr. Jacobi said that the objection made to the treatment on the score of its time-consuming nature was hardly sufficient to condemn it. She had seen a number of cases that had gone from one physician to another without benefit, although doubtless physicians generally were well acquainted with the principles which should underlie the successful treatment of such cases.

The Morbid Anatomy of a Case of Progressive Muscular Atrophy Which Was Clinically One of Amyotrophic Lateral Sclerosis.—Dr. Carlin Philips read this paper. He said that the patient was a woman of thirty-six who had come under Dr. Collins' observation for the first time on June 17, 1897. She had then complained of severe frontal headache, inability to lift the head from the pillow without the help of the hands, tremulousness of the hands, and easily induced fatigue. She had lost thirty pounds. Examination showed atrophy of the supraspinatus and of the right shoulder girdle, and these muscles showed fibrillary twitchings. The knee-jerks were increased; there was ankle clonus on both sides; there was no affection of the special senses. Six months later she had complained of dyspnea and had shown loss of will power and suicidal impulses, together with some difficulty in swallowing. The atrophy of the muscles was more marked, and extended to the trapezius muscle. She began about this time to have attacks of major hysteria, and the atrophy increased rapidly. The gait became spastic and the body rigid. She had the use of her limbs up to about six weeks before death on May 25, 1899.

Autopsy Findings.—An autopsy was allowed only upon the brain and spinal cord. The weight of the body was forty-eight pounds. The meninges of the brain were anemic. The brain was normal in gross appearance, as was also the spinal cord. The latter was carefully segmented and prepared in various ways for examination. In the second cervical segment was a concentric zone encircling each anterior horn and involving the anterior mesial and anterolateral portions of the fundamental columns, while the tracts of Gowers and the pyramidal tracts were left intact. Corresponding to the degenerated areas in this segment the neurogliar proliferation was very slight. The fourth cervical segment showed a sinking in of the periphery just at the margins of the anterior roots, and this change of contour extended down several segments. The gray matter extended laterally giving a sickle-shape to the degenerated area. While there was no evidence of the destruction of the cells, the most striking feature was the extensive degeneration of these cells. The fifth cervical segment was practically the same as the fourth.

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ORIGINAL ARTICLES.

THE CONDITION OF THE KIDNEYS WITH REFERENCE TO THE EMPLOYMENT OF DIURETICS.[1]

BY ARTHUR R. ELLIOTT, M.D.,
OF CHICAGO.

HUCHARD has grouped from various sources the following indications for the employment of diuretics: (1) To maintain the action of the kidneys; (2) to evacuate fluid effusions; (3) to soothe and diminish irritation of the genito-urinary organs; (4) to modify the urine and prevent formation of calculus; (5) to exert a derivative effect through the renal passage; (6) to hasten elimination of toxic substances from the organism.

It may be said that diuretics are of little if any avail in removing inflammatory effusions or procuring absorption of chronic effusions, such as ascites and hydrothorax. Hence the main objects to be attained through their action are the maintenance of renal function, dilution of the urine and removal of edema. Diuretics exert their physiological effect upon the kidneys in several ways. Brunton's simple classification divides them, according to their mode of action, into diuretics which act upon the blood, those which act upon the circulation, and those which act upon the tubules of the kidney. The first of these classes—those which act upon the blood—includes the saline or refrigerant diuretics, chief among which are the vegetable salts of potassium and the salts of lithium, sodium, and strontium. Since the main office of the kidneys is to depurate the blood, we would naturally expect them to be influenced in their function by slight changes in the composition of the blood and such we find to be the case. This fact explains the diuretic action of water and of the class of saline diuretics. It has been shown that the power of these latter bodies to induce urinary secretion is directly proportional to their power of attracting water, and that the result of their presence in the blood is to cause an active flow of water from the tissues into the blood which in this way becomes diluted to an extent varying with the osmotic pressure of the substance introduced. In other words, hydremic plethora is induced with dilatation of the visceral blood-vessels and general rise of blood-pressure with increased rapidity of flow. The diuresis resulting from these substances lasts no longer than the hydremic condition and increased blood-pressure and ceases when only a small amount of the drug has been removed. The fact that the increased urinary flow does not persist until entire excretion of the body is accomplished shows that these substances are not specific stimulants of the renal function, but act indirectly through increasing the volume of the blood and raising vascular tension.

The effect of the second class of diuretics—those which act upon the circulation—is rather more complex, but in the end is much the same as the preceding class. They may be designated the cardio-vascular diuretics and include digitalis, strophanthus, theobromine, convallaria, adonis vernalis, sparteine, caffeine, and the cardiac stimulants generally. Their diuretic effect is accomplished by their influence in producing increased pressure in and flow through the glomerular capillaries.

The action of digitalis may be taken as typical of this class. Digitalis slows and strengthens the cardiac systole and at the same time constricts the arterioles so that blood-pressure is raised thereby relieving venous stasis and bringing about improved circulation through the kidneys. It is, perhaps, the most generally useful diuretic, being especially valuable in dropsy associated with cardio-asystolic conditions. With a normal heart its action upon the kidneys is extremely doubtful. Its effect upon the urinary secretion in health has been carefully studied by numerous observers, but with such diverse results as to render it probable that its diuretic action is in great measure indirect rather than direct.

In connection with the circulatory diuretics may be mentioned the action of the vasodilators. These drugs, principally nitrites and iodides, act by dilating the renal capillaries and so moving more blood into the kidneys. At the same time general blood-pressure is lowered. In this manner diuresis is effected by substituting vasodilation for vasoconstriction, which is the dominating factor of diuretic medication.

Diuretics of the third class act upon the secreting structure of the kidneys so as to increase its function. They are mainly renal irritants, their action upon the kidneys being compared by Brunton to the action of drastic cathartics upon the intestine. In small doses they produce diuresis by stimulation of function, while in large doses they give rise to severe irritation and even inflammation of the kidneys. The most important members of this group are turpentine, juniper, squills, copaiba, cubebs, cantharides. Calomel and blue mass may be mentioned as diuretics which do not belong to any one of the foregoing classes. They are indirectly diuretic, probably through their influence upon the liver resulting in the formation of substances which are diuretic in action. Some of the diuretics pro-

[1] Read at the annual meeting of the Illinois State Medical Society, Peoria, Ill., May 22, 1901.

duce their effect upon the kidneys by acting simultaneously in more than one way. Thus, caffeine, theobromine and squills are at once cardiovascular diuretics and stimulants of the renal epithelium.

The facts passed thus lightly in review regarding the action of these drugs develop the interesting conclusion that only a comparatively few of them are true renal diuretics. It is only in the case of the third class of irritant-epithelial diuretics that the renal function is increased by direct action of the medicament upon the kidneys. All other diuretics exert their effect upon the urine, indirectly through the circulation, either by raising blood-pressure through improved cardiac action, or by inducing a watery condition of the blood with coincident heightening of vascular tension.

In acute irritative and inflammatory conditions of the kidneys, a state of physiological rest is indicated and for this reason drugs directed toward increasing the urinary flow should not act directly upon the kidneys, but indirectly by stimulating cardiac action, raising blood-pressure or producing vasodilation. For this reason the irritant epithelial diuretics should never be employed in inflammatory diseases of the kidneys. It is well known that diuretics often fail of action when their effects are most needed. This is not because they are inconstant in their action, but because of unsurmountable obstacles which frequently are opposed to their action and as well because they are often administered without a proper appreciation of the indications of the particular case. Thus, in cardiac disease, the kidneys may be so engorged as to render secretion impossible and in advanced Bright's disease diuretics may be powerless because of extensive destruction of the secreting cells. It is well to bear in mind that, when the function of the kidneys is impaired, it is prudent to use medicines having toxic properties with extreme caution. This applies to many of the diuretics, especially the cardio-vascular diuretics and calomel. When the impermeability of the organs has advanced to the point where systemic waste and toxins are retained, medicinal substances may also fail of excretion and drug intoxication may be added to uremic poisoning. It should also be remembered that there is a marked antagonism between the function of the bowels, skin and kidneys, so that great activity of one of these emunctories lessens secretion by the others. For this reason, when diuresis is desired, sweating and purging should be avoided. After a diuretic is administered, the patient, as a rule, should be kept cool. A drug administered for diuretic purposes may, if given hot and the patient kept warm, act as a diaphoretic.

Diuretics are employed in functional and organic derangements of the kidneys. In functional urinary disorders they are mainly used to dilute the urine and correct undue acidity and thus soothe and diminish irritation of the urinary passages. To accomplish these results nothing is so well adapted as simple diluents or the class of saline diuretics. There is no doubt that, as a class, Americans do not drink enough water and consequently are liable to concentration and undue acidity of the urine, with irritation of the urinary organs and disposition to the formation of crystalline concretions. We know that organic disease is frequently the result of prolonged functional irritation of an organ.

I have felt satisfied that in a number of my cases of chronic interstitial nephritis in middle-aged subjects the underlying cause has been prolonged irritation of the kidneys from an overacid, concentrated urine, the result of insufficient water-drinking. Herein is one reason for the popularity of the so-called "lithia waters" and, although one may feel some skepticism regarding the efficacy of the lithia they contain, they serve a good purpose by inducing consumption of a water with supposed medicinal properties in cases in which plain unsophisticated water would fail to enlist the patient's interest. At this point a word might properly be spoken in warning of the evils of overconsumption of water in organic kidney disease. It is customary to direct patients with chronic kidney disease to partake freely of water. Unless some limit be placed upon this unquestionably good hygienic measure, the patient may apply himself too freely to the practice, and as a result pass habitually from eighty to one hundred and twenty ounces of urine. The congestion induced in the glomerular circulation by this state of affairs may cause decided harm to the organs. In a number of my cases increase of albuminuria and blood in the urine have resulted.

Whether any of the medicinal diuretics possesses the power of dissolving urinary concretions is doubtful, but there can be no question of the efficacy of freely diluting the urine by means of diluents and diuretics, in preventing their growth and formation, and in relieving the irritation they produce.

In the various forms of nephritis, diuretics are much employed. Before considering their value in this disease, a word might aptly be said in deprecation of the tendency to give diuretics without due reference to the indication of the particular case. Many physicians apparently regard the presence of organic kidney disease as sufficient reason for diuretic medication, and potassium, strontium, digitalis or even the irritant diuretics are administered, often to the distinct detriment of the patient. It is about as reasonable to give diuretics in this indiscriminate manner as it would be to administer cardiac stimulants to all cases of organic heart disease, without reference to the state of the cardiac muscle. Diuretics should only be given in Bright's disease in response to definite indication.

In acute nephritis we have a much more promising field for the employment of these agents than in chronic nephritis. In cases of acute nephritis attended with oliguria and dropsy our endeavor must be to relieve as far as possible all strain upon the engorged capillary system of the

glomeruli, so that the organs may resume their normal function. Any attempt to stimulate renal action and to reduce dropsy during the acute inflammatory stage is apt to meet with disastrous consequences by throwing work on organs incapable of bearing the strain. It is important, however, to maintain the function of the kidneys. Indeed, it becomes a condition of life that quantity of urine should make up for quality. This must be accomplished without imposing any strain upon the diseased organs. During the stage of acute inflammatory engorgement a free urinary flow is best favored by the liberal use of water, either plain or with one of the vegetable salts of potassium, added in sufficient amount to render the urine alkaline. Certain authorities (Ewald, Cantani, Labadie-Lagrade) reject the administration of all diuretics at the commencement of nephritis, but Furbinger, Leyden, Gairdner and others contend that saline diuretics are absolutely harmless even when nephritis is in full swing. I am sure that general experience is in conformity with this latter view. It has been affirmed that the salts of potassium increase uremia, but confirmation from practical experience is lacking on this point. Unfortunately, these drugs may prove very distasteful to the patient and give rise to nausea and vomiting. They should be withheld at the earliest sign of digestive disturbance.

Gerhardt, Coignard and Purdy contend that alkaline urine dissolves the fibrinous exudations which plug the tubules, a contention which has been verified by Cantani. This action is one of the most valuable attributes of the saline diuretics and serves to greatly facilitate the function of the embarrassed kidneys by clearing the tubules of inflammatory products. Sir William Roberts states that in no instance in which the urine had been rendered alkaline during the first week of the complaint had he observed the more severe uremic symptoms and secondary inflammations.

When the oliguria is great and uremia threatening, resort should unhesitatingly be had to the subcutaneous injection of normal saline solution. The solution should be freshly made and freshly sterilized and should be slowly injected at a temperature of 100° F. into the buttock or cellular tissue of the breast. One quart every six to eight hours should be given until the kidneys respond, or instead a pint may be injected every three hours. The immediate effect of the introduction of these large quantities of saline fluid is to relieve vasomotor constriction probably by diluting the toxins in the blood and to stimulate the heart's action, thereby raising general blood-pressure and favoring elimination by the natural channel. I know of no measure so effective in bringing about copious diuresis. The effect upon the kidneys is frequently most remarkable. It may require several infusions to produce any important effect, but when diuresis begins it is often extremely free and lasting. High enemata of hot normal salt solution may be used instead of the subcutaneous injections, but they are not nearly so effective. When the disease has passed into the subacute stage with abated fever and subsidence of the interstitial and parenchymatous inflammation in the kidneys, theobromine may be administered if a diuretic seems indicated and the salines prove ineffectual, or if persistence of edema suggests its dependence upon atony of the cardiac muscle, digitalis may be resorted to.

In chronic renal diseases, the indications for the employment of diuretics are to maintain the urine and thus assist the elimination of urinary and other toxic bodies and to remove edema. In chronic interstitial nephritis polyuria and not oliguria prevails and, consequently, no service can be expected from diuretics, nor is their use at all necessary until the stage of cardiac failure is reached. With dilatation of the heart and lowering of systemic blood-pressure, diminution of urine supervenes and dropsy develops. Appreciation of the fact that dropsy and oliguria are due to the circulatory failure indicates the futility of giving diluent and saline diuretics, or expecting results from any measure not directed toward restoring cardiac action and raising the general blood-pressure. Digitalis is the drug indicated and favorable results upon the urine may be expected from its employment, especially if vasodilators be simultaneously administered to unlock the arterioles and thus neutralize the constricting action of the digitalis. Strophanthus, caffeine, sparteine, convallaria and theobromine may be employed in place of digitalis, but they are much less reliable. When the renal impermeability is advanced, the influence of digitalis and other diuretics is doubtful and we should proceed in their administration with the utmost caution.

In chronic diffuse nephritis the quantity of urine varies inversely as the amount of dropsy. Diminution is the rule, although a considerable temporary rise may be seen during the period of subsidence of the dropsy. Saline diuretics and diluents will consequently serve useful purposes by increasing the urine and flushing the renal tubules. The usefulness of digitalis and the cardio-vascular diuretics will depend upon the condition of the heart and systemic blood-pressure. In the engorged or cyanotic kidney subsequent to serious circulatory derangement, the cardio-vascular diuretics and especially digitalis are the only ones to be considered. It is in these cases that calomel exerts most strikingly its diuretic effects. Digitalis may be given alone, or in combination with squills and blue mass, if the kidneys are free from organic disease. A valuable combination is digitalis and bitartrate of potassium, as is also digitalis, strophanthus and acetate of potassium.

Finally, regarding the usefulness of diuretics in renal dropsy. The factors entering into the production of renal dropsy are both circulatory and hematic. The circulatory condition probably consists in undue permeability of the capillary wall, allowing the outpouring of large quantities of fluid into the lymph-spaces. The capillaries, although not muscular, have been shown to be

contractile and it may be presumed that they offer increased resistance to blood abnormal in character from the presence of toxin which the diseased kidneys fail to excrete. This involves increased intracapillary pressure and with it must be associated some change in the capillary walls which renders them unnaturally permeable. With these changes in the vessel-walls is associated a true hydremic plethora of the blood. Not only is the blood poor in solids, but the volume of the fluid is increased. These factors operating together cause the dropsy of acute renal disease. Their primary cause is undoubtedly the toxemia due to the kidney lesion. Notwithstanding the fact that the flow of urine varies inversely with the amount of dropsy, the oliguria is probably a result rather than a cause of the dropsy. This view of the production of dropsy does not hold forth a very hopeful prospect to the administration of diuretics. In fact, the action of these agents in renal dropsy is very uncertain, owing, no doubt, to the different conditions accompanying acute and chronic renal disease. Dropsy in acute nephritis is usually of purely renal origin and consequently is very little amenable to favorable influence by diuretics.

In chronic nephritis the problem is essentially different. The increased capillary resistance just referred to, which is produced by the presence of toxins in the blood, involves increase of arterial tension and of cardiac effort to overcome peripheral obstruction. When renal disease is of very gradual development, as in many cases of chronic interstitial nephritis, and the heart has been allowed time to hypertrophy, gradually, with the rise of tension, dropsy is postponed or may be altogether absent. If the patient survives to the last stages of the disease, the cardiac compensation gives way and dilatation with mitral insufficiency supervenes. Under such circumstances dropsy develops and may be regarded as more cardiac than renal. As dropsy of cardiac origin is much more easily influenced than that due to purely renal causes, a better field exists for the employment of diuretics, especially the cardio-vascular diuretics in the dropsy of chronic nephritis than in the acute disease. The latter form of dropsy must be combated by measures directed toward the promotion of excretion by other channels, especially the skin and bowels.

Conclusions.

1. Except in the case of the irritant-epithelial diuretics (turpentine, cantharides, etc.) the entire class of diuretics may be said to exert their effect upon the urine by acting indirectly through the circulation.

2. Owing to the necessity for sparing the kidneys all irritation, drugs given for diuretic purposes should act indirectly rather than directly, consequently the secretory diuretics are contraindicated in irritative and inflammatory renal conditions.

3. In functional urinary disorders diuretics are mainly useful to overcome concentration and hyperacidity of the urine. To accomplish this, simple diluents and salines are best adapted.

4. In acute nephritis saline diuretics are permissible throughout the entire course of the disease and exert a beneficial influence by increasing elimination and clearing the tubules of inflammatory débris. Subcutaneous saline infusion constitutes our most powerful eliminant in desperate cases.

5. In chronic nephritis the cardio-vascular diuretics are most useful, owing to the fact that oliguria and dropsy are usually the result of circulatory failure. The dropsy under such circumstances, being of cardiac origin, may be benefited by cardio-vascular stimulants provided the kidneys are not too badly damaged.

6. Dropsy of purely renal origin is not amenable to favorable influence by diuretics.

7. Although the morbid process in the kidneys may furnish us with our primary inspiration to diuretic medication, it is the condition of the heart and circulatory apparatus in most cases that determines the choice of an agent.

THE THERAPEUTICS OF SUBACUTE AND CHRONIC HEART DISEASES.[1]

BY THOMAS SATTERTHWAITE, M.D.,
OF NEW YORK.

NOTWITHSTANDING all of the recent advances in cardiac therapeutics (and the changes of the last ten years have been revolutionary), we are less and less disposed to advocate special remedies for special affections. This is particularly true when the valves are at fault, for we have learned to put less weight on abnormal sounds and more on attendant phenomena, and especially on the character of the tissues about the valves. A few statements that I believe will be admitted without controversy by those who have made a study of heart diseases will serve to illustrate my meaning.

The gravity of a valve lesion is not always measured by the intensity of its murmur. A loud and harsh murmur is not incompatible with an average length of life; whereas a valve may be almost occluded as in mitral stenosis, without giving any recognizable auscultatory sign.

A loud murmur in recent endocarditis may mask an older and much more serious lesion, simply because in one the edges of the valve are smooth, and in the other, rough. The maximum intensity of a murmur is not always best heard over the area that our text-books designate as the proper point for auscultation, for an aortic direct murmur can sometimes be best heard over the pulmonary area, an aortic regurgitant murmur, over the mitral area.

Single valve lesions are the exception not the rule.

With the best opportunities and the largest experience one may not always be able to distin-

[1] Read at the Annual Meeting of the American Therapeutic Society, Washington, May 8, 1901.

guish between a functional and an organic murmur. Obstruction of any valve is usually associated with insufficiency.

Now, facts like these are plainly bars to a correct diagnosis derived from purely auscultatory signs; and from our present view they appear to be insuperable. As a result, the clinician of to-day realizes limitations in the value of purely auscultatory signs, and only utilizes them in connection with other signs. And so if he recognizes aortic obstruction, and does not note insufficiency, he still mentally adds to his diagnosis a probable insufficiency, because the two usually coexist; certainly if the obstruction has reached an advanced stage there is almost inevitably regurgitation. But even if the physician has abundant opportunities and the requisite experience he may still sometimes fail to locate an affected valve. A few figures will illustrate this point.

In 46 cases of mitral insufficiency from my hospital postmortem records 34, or 75 per cent., were correctly determined during life, though in 39, or 86 per cent. of them, other valve lesions were present to complicate matters. An accuracy of 75 per cent. is a creditable showing. In sharp contrast, however, is the record in mitral stenosis. From 27 cases the following results were obtained: The lesion was not noted at all in 19, or 70 per cent.; the signs were not heard or misinterpreted in 4, or 15 per cent.; the signs were heard and correctly interpreted in 4, or only 15 per cent. In 18 or 66 per cent. of these cases of stenosis there was insufficiency.

These figures certainly indicate, as I have said, that in the majority of instances a single valve lesion is complicated with one or more; and therefore therapeutics founded on the action of a drug in a supposed case of pure mitral stenosis or pure aortic insufficiency, for example, are illusory, in that we are probably not dealing with a single lesion, but with two or more. One should, therefore, be skeptical when he reads that a remedy is adopted for mitral stenosis, but not for mitral insufficiency. In fact, it is a matter of minor consequence, so far as treatment is concerned. what the precise valve lesion is, while it is vitally important to determine whether the disease is acute or not, the heart hypertrophied or dilated, the character of the pulse, and attendant symptoms relative to implication of other organs.

And yet such ideas as this are prevalent, that, with a pulse of say 50 or 120, the rate must be brought to a given standard; or so long as we hear a loud murmur or find an intermittent pulse, the heart must be at once stimulated with cardiac drugs, and in many cases the unfortunate patient is subjected to a course of drugging that is useless if not harmful.

Let us note here that the newer methods of treatment consist in rest, alternating with bodily activity; determination of the blood to the periphery rather than venesection; a carefully regulated diet, with stomachics if necessary. In place of the so-called heart-tonics or stimulants which we now employ, systemic invigorants or alteratives, with or without mild cardiac sedatives, should be given, reserving the so-called cardiac or circulatory stimulants and hydragogue cathartics for emergencies which may arise from complications, such as pneumonia, advanced Bright's disease, diabetes or abdominal dropsy, where we either have abandoned hope or are merely aiming to sustain life (as in lobar pneumonia) during a brief period of cardiac strain. Of course, I do not desire to disparage rest. It has its value for every wearied organ, but complete rest from all bodily or mental activity has a limited value in the treatment of heart diseases and is applicable, only in cases of acute dilatation, with or without endo- or pericarditis, in some perenchymatous affections, or in the last stages of chronic heart disease. In fact, as soon as the immediate danger from any serious heart disturbance is over, active or passive bodily movements should be inaugurated, for enforced rest superinduces degenerative processes and retards the physiological activities necessary to rid the system of effete material.

It seems almost absurd to discuss the matter of venesection in heart disease, for it is hardly known in our latitude; yet it is recommended in two prominent American text-books which have appeared within the past ten years. In a practice of more than thirty years I do not remember ever to have known of its use in heart cases, although I have venesected for the vertigo of plethoric people, in cerebral congestion and in orchitis, and have quite often used wet cups in the sthenic pneumonia of robust young people, and have had no occasion to regret the practice. But in cardiac cases, local derivation by dry cups, frequently resorted to, fulfils all the indications, when we are aiming to relieve the right heart. In chronic pulmonary engorgement, however, carbonated baths and resistant exercises do the work best by determining the blood from the internal viscera to the muscles and integument.

So much for intracardiac pressure. Diminution in the extracardiac pressure, another important matter, is also accomplished in some instances by remedies that are mild but effective. A restricted diet in which the ordinary amount of nitrogenous food is somewhat increased and the carbohydrates decreased, lessens fermentation and so diminishes gaseous distention of the stomach, thus preventing this form of pressure on a distended heart. Inasmuch, however, as the carbohydrates supply energy to the system they should not be forbidden altogether. In delicate cases the use of malted foods containing predigested starch is helpful. It is apparent, therefore, that a mixed diet is preferable. In the matter of fluids, inasmuch as lithemia is at the back of most chronic heart diseases, they should be used freely as solvents for uric acid, if not for any

other purpose, and, as most of these patients lead somewhat sedentary lives and suffer from indigestion, we cannot overlook stimulants and antifermentatives for the gastro-intestinal tract.

I do not propose to discuss here the carbonated-bath systems, and the associated resistant exercises more than to say that I cannot well see how the present method of generating carbonic-acid gas by the acid sulphate of soda and bicarbonate of soda, or allied methods, admits of much improvement. The use of liquid carbonic acid is attended with such difficulties that I and some of my colleagues, who make use of carbonic-acid gas in various ways, have abandoned it. If, as I believe, it takes forty-five minutes to carbonate a tubful of water at 40° F., it would naturally take longer to carbonate it at 97° F. or 98° F., the heat required for the initial bath, and even if so charged the water would not retain its original gas-percentage. On the other hand, by the use of the carbonating powders and discs there is a constant evolution of nascent gas which has more nearly the properties of the Nauheim Spring waters and is more efficient than stored gas, for it is in a state of more minute division and besides the percentage remains about the same during the evolution. Actual experience confirms this statement. Moreover, there is always the danger of explosion when liquid gas is used, for this is always possible so long as there is a pressure of 1,000 lbs. to the square inch in the drum or apparatus and the attendant is inexperienced or careless.

Although the uses of the carbonated bath and resistant exercises are finding a constantly increasing field of usefulness, it is in cardiac insufficiency that they have a special field. In fact, they are applicable to all classes of heart weakness, whether resulting from acute infections, such as diphtheria, typhoid and the acute exanthemata, mineral poisons, dyscrasiæ, like lithemia and diabetes, or organic diseases of the heart and vessels. They are also useful in cardiac neuroses, such as are produced by emotional causes, hysteria, the tobacco vice, tea or coffee poisoning and masturbation, in functional diseases of the heart, such as are seen in anemia and in overuse of drugs, such as digitalis, strophanthus and others of this group, thyroid extract, or violent reduction methods, such as are practised at Carlsbad, Kissingen and other German spas. Usually angina pectoris, diabetes, parenchymatous nephritis, arteriosclerosis and phthisis are regarded as contra-indicating carbonated baths and exercises and my experience during the last year in general sustains this view, although it also indicates that in some instances they may be resorted to with benefit. However, we are making history as to the utility of baths and exercises in angina, arteriosclerosis, glycosuria and albuminuria, as the following cases show.

Case I.—Angina pectoris; direct aortic murmur; cyanosis; flatulent dyspepsia; general superficial edema. A young married woman of fine physique, weighing 140 pounds, was referred to me by Dr. F. A. Burrall of this city in May last. She had been ill for five or six years, and for the last eight months had been under active treatment for her heart affection, although gradually growing worse. Previous to her illness she had been given to athletic sports, such as riding, swimming, etc. The attacks of angina were regarded by her physician as of the true variety. The precordial pain was described as of "a house resting on the chest." Flatulent dyspepsia, dyspnea and transient cyanosis were other symptoms given. Attacks were brought on by nervous strain of any kind, particularly by prolonged conversation. They were temporarily relieved by nitroglycerin.

On physical examination the pulse was found to be 80, soft and weak, but without intermission. No impulse at the apex, but burning pain. No thrill; precordium and sternum sensitive to the touch and swollen; cording of lymphatics under left breast; apex over sixth rib and ⅛ inch inside of mammilla and 2⅜ inches below intermammillary line; at apex slight systolic murmur. At base systolic murmur carried well up into the great vessels.

Potassium citrate, nitroglycerin, strophanthus and strychnine had been given. All medicine was stopped and camphor monobromate in 2-grain doses ordered, with carbonated baths, and resistant exercises and massage. After four days of this treatment the swelling of the breasts had disappeared and after a course of only fifteen days she was sufficiently improved to return home, and in the following September she was enjoying life, camping in the Maine woods, and feeling, as she expressed it, "restored to health." On the other hand, a patient with arteriosclerosis, angina, and complications, did not do so well.

Case II.—Angina pectoris; arteriosclerosis; glycosuria; albuminuria; apoplexy. Mr. H., a retired merchant, seventy-four years old, of full habit and rather obese, was sent me in September, 1889, by Dr. H. V. Barclay. He had been complaining of dysphagia and obscure gastric attacks coming on at night. On physical examination his pulse was found to be 80 and feeble, with hard radials, rolling under the fingers. Respiration 24. Impulse at apex hard to detect. Apex ½ inch outside of the nipple, and ½ in. below the intermammillary line. Heart sounds indistinct. Urine 1¼ per cent. sugar. Traces of albumin; specific gravity 1015.

Owing to his feeble condition the baths and exercises were stopped on the thirteenth day of treatment. On this day he had a gastric crisis at night and his head was confused in the morning. The condition of the urine remained the same. On October 23d a musical

murmur was heard with systole at the apex. He was now put on potassium iodide. Two or three attacks of angina had been brought on by the smell of cooking, and others by gastric or intestinal distention. On October 27th an attack was induced in my office by a smell of fresh paint. Relief was always obtained by capsules of nitrite of amyl with nitroglycerin, etc., the formula of which is given later. Patient nervous and hysterical. From October 30th for three weeks he was free from attacks, using the capsules only to ward off attacks, but his diet was strict. Under the iodide of sodium increased to nine minims of the saturated solution three times a day, the patient continued to improve, although he had occasional attacks of dizziness and was troubled by a sound like that of running water in his right ear, indicating the gravity of the disease in his cerebral arteries. In December he passed from under my care and on February 15th died of an apoplectic attack. It is scarcely astonishing that baths and exercises should have done so little in this case, where there was such a complication of disorders. It is important, however, to know they did no harm, notwithstanding the elements of albuminuria and glycosuria. In fact, I have not found that mild albuminuria and glycosuria necessarily contraindicate the use of baths and exercises as the following case will show.

Case III.—Arteriosclerosis, aortic direct and regurgitant murmur; cardiac hypertrophy albuminuria; glycosuria. L., sixty-four years of age, a retired man of business, was sent me by Dr. D. Bryson Delavan of this city, on account of persistent epistaxis due to endarteritis. Patient stated that he was rather short-winded, had occasional fainting attacks and shooting pains over the heart. No headache but pain in back of neck. Pulse 80, intermittent. Respiration 16. No dyspepsia. Facies arteriosclerotica. Physical examination, superficial enlargement of veins of chest especially of precordial area. Loud systolic murmur with first sound propagated up the great vessels and with second sound radiating to the right and also down the sternum. No mitral murmur. Heaving impulse. The apex was found just within the nipple and 2 inches below the intermammillary line. The loud murmur with the first sound at base corresponded with an area 5 inches in diameter, extending 3½ inches to the right of the median line and 2 inches to the left of it. By fluoroscopy this area threw a somewhat dark shadow, and to my mind indicated a fusiform dilatation of the aorta (ascending portion of the arch), although the shadow was not as dark as I have seen it in sacculated aneurism. Examination of the blood showed hemoglobin, 95 per cent. Examination of the urine was as follows: Daily amount, 24 ounces; specific gravity, 1025; traces of albumin; sugar, 2 per cent.; hyaline casts; urea, 6 grains per ounce. The patient took a course of resistant baths and exercises at Nauheim. On his return he was no longer short-winded, but had shooting pains occasionally over the heart. Pulse 72, one intermission instead of 4 per minute. Respiration 16. Superficial veins of chest not so prominent. Murmur the same, but cardiac enlargement diminished. As the patient contracted a rheumatic attack on his return voyage, he was put on the hot-air treatment and the iodides were given.

January 2, 1901, examination of the urine was as follows: Specific gravity, 1015; amount, 33 ounces; no albumin; no sugar; traces of indican. On March 23, 1901, the patient expressed himself as free from all disagreeable symptoms, although the auscultatory signs were little changed. The patient is now attending regularly to business.

There is also a condition that has been called idiopathic dilatation of the heart, such as is seen in young boys and especially girls, often of the working class, and those that are anemic and neurotic. It is seen also in phthisis or in any debilitating disease. The signs are an enlarged cardiac area, feebleness or absence or diffuseness of impulse, faintness of first sound at apex with accentuation of the second pulmonary sound, and marked accentuation of the aortic second sound (the hyperdiastole of Rosenbach). It is apt to be associated with menstrual disturbances, constipation and flatulence and is improved by rest, massage, tonics and laxatives and a restricted diet. If any cardiac stimulant is required, in the absence of the baths and exercises, iron and strychnine, but not digitalis or drugs of this group, are indicated.

In cases of kidney trouble it is not always well to be too certain about the result. As I have shown, mild cases of diabetes and albuminuria may be greatly benefited. In fact I have seen no harm but only benefit in glycosuria up to 2½ per cent. sugar. In severe cases, however, the diabetes should be treated successfully before baths are given.

Although slight albuminuria is no bar to baths and exercises, in parenchymatous nephritis the matter is different, as shown by the following case.

Case IV.—Cardiac hypertrophy; mitral disease; abdominal dropsy; chronic nephritis. Mrs. ——, twenty-nine years of age, from Memphis, Tenn., was referred to me by Dr. E. Miles Willett of Louisville, Kentucky, in October, 1889, the patient being extremely anxious to try a course of baths and exercises. She was unable to walk when brought to New York, and for several days after her arrival was confined to her bed. At fourteen years of age she had inflammatory rheumatism and at seventeen typhoid fever. In 1897 she had a hard labor, was cyanotic so that no anesthetic was given, and her child was delivered with forceps.

On examination a harsh systolic murmur was heard at the apex and carried round to the back. Apex below the left border of the nipple. Pulse, 64. Temperature, 98° F. Respiration, 24. Urine, specific gravity, 1012; scanty, faint trace of albumin. She was taking codeine in ½-grain doses, which had been given her in alternation with digitalis.

These drugs were stopped and she was put on strychnine and caffeine in small doses, with calomel as a laxative. Inasmuch, however, as the amount of albumin was small and the casts were infrequent, the patient was put on carbonated baths and exercises, although they were given irregularly, as attacks of heart failure and partial suppression made it necessary to proceed cautiously with them. However, after thirteen baths had been given, it became apparent that the patient had a confirmed chronic parenchymatous nephritis, and that, therefore, the baths would be of no use and might do harm. In fact, on one occasion the albumin during an attack of temporary suppression reached 66 per cent. by volume. In other respects, however, there was improvement. The patient was at one time able to sit up for a considerable part of the day and had even walked out on the street; the volume of the heart also had diminished, the apex receding ¾ inch toward the median line. On November 10th, however, she was taken down with an acute attack of lobar pneumonia which lasted nine days and during that time it was necessary to administer digitalis to promote the flow of water and relieve the abdominal dropsy that supervened. On four distinct occasions, also, she had attacks of heart failure, the radial pulse on one of them suddenly falling to 38 and three times to 44, during which nitroglycerin, the nitrite of amyl and alcoholics were satisfactorily used to restore the circulation. On November 24th she returned home in an improved condition, though ultimate recovery manifestly was impossible. In fact any improvement in such a case of heart disease complicated with chronic parenchymatous nephritis can of course be only temporary. Death occurred some months later.

Cases of advanced phthisis should never try the baths. I saw such a case with Dr. J. H. Huddleston of this city in February, 1900.

Case V.—Phthisis; mitral stenosis. The patient, a man who had been in very active business had long suffered from heart trouble, but had not been seriously ill until six months previous. He had been seen by a prominent consultant who diagnosticated the case as a chronic pneumonia of heart disease. I found him emaciated and bathed in a cold, clammy sweat. Radial pulse, 37 to 44, very intermittent and irregular in force. There had been hemoptysis, but no evening rise of temperature had been noted. Urine, 20 to 30 ounces; albuminuria. Feet and abdomen had been dropsical sometime previously. No bacilli.

Physical examination showed the apex in the sixth space. Action of heart tumultuous. Blowing murmur over the mitral area, not transmitted. Dulness at left apex. Cavernous respiration. I made the diagnosis of phthisis, notwithstanding the negative report as to bacilli in the sputum, and refused to recommend baths or exercises. In the following summer contrary to my repeated advice and that of his medical attendant, although his condition was much improved, he went to Nauheim where my diagnosis was confirmed, and after treatment by baths and exercises he was ordered to Egypt for the winter. He did not reach Egypt, however, but died at Rome within a year.

Cases of phthisis with albuminuria and hemorrhages should not take baths and exercises, at least until the pulmonary and renal symptoms have been successfully treated, or at least held in check.

In the subacute dilatation of young people, especially in anemic or neurotic girls and boys who lead a sedentary life, a little more exercise of a quiet nature in the open air, with nutrients, like malt, iron, arsenic and strychnine, and carbonted baths and exercises tend to restore the heart's tone and diminished dilatation.

In older people strychnine in doses from $^1/_{60}$ to $^1/_{30}$ grain every four hours is a good all-round nerve tonic. It stimulates the nerve centers in the medulla and spine and overcomes functional debility, whether of nervous of muscular origin. But it is seldom necessary to give more than $^1/_{40}$ grain at a dose. In fact strychnine, I hold, should not be kept up more than a week or ten days at a time, because it is cumulative and apt to disarrange digestion. Besides it conteracts both heart and arterioles, so that it is evidently undesirable and even dangerous for continuous use or in large doses. Somewhat similar in action is arsenic, a general tonic suited especially for the debility of anemic persons or of old age. A good plan is to combine arsenic, $^1/_{10}$ grain, with iron. Under the same category comes the cactus or *cereus grandiflorus* (night-blooming cereus of Mexico). It seems to stimulate the vasomotor centers and so regulates the heart. I have found it useful in myocardial diseases. It appears to have no cumulative effects. The dose is one to two minims of the fluid extract. It is better borne than digitalis or strophanthus. It acts probably as a general nerve tonic and appears to be a good succedaneum for strychnine.

Laxatives are essential in the treatment of chronic heart diseases. They should be carried to the point of producing at least one liquid or semi-solid movement a day. For this purpose I have been in the habit of using waters that contain sulphate of soda, such as the Apenta. In place of them I now use a preparation made for me by H. A. Cassebeer to get

the effect of the diuretic, hepatic and saline aperient. It consists of equal parts of the sulphate of soda, phosphate of soda and the neutral tartrate of potassium. The dose is one to two drams dissolved in hot water and it is taken warm one hour before breakfast. It may be replaced by a hepatic such as I prescribe frequently. It is composed of resin, podophyllin, gr. ½; ext. colocynth co., gr. i; ext. hyoscyami, gr. i, and ext. nucis vom., gr. ⅙. One pill may be taken as often as every other night. It can be taken almost indefinitely.

Among the cardiac sedatives I use valerian and also the bromide of zinc, the latter in $^1/_{10}$-grain doses. In bad cases I prefer the tincture of aconite in 2-minim doses every three or four hours. Aconite acts in general as a mild depressant of the heart and pulse. It is a vasomotor dilator, a diuretic to some extent and a mild diaphoretic. It is also very useful in the tumultuous heart, and being a vasodilator it is useful after overdosing with digitalis and drugs that contract the heart muscle. An excellent agent to quiet the mildly neurotic heart is camphor monobromate in 2-minim doses. It is especially useful in the fluttering heart of emotional women. Another drug which has a more limited use is belladonna, is beneficial where there are palpitation, anginoid attacks and arhythmia, but I prefer it as an external application.

For severe attacks of dyspnea, I give nitroglycerin in doses of from $^1/_{150}$ to $^1/_{50}$ of a grain, and I have given the latter dose as often as every hour for many hours together, for nitroglycerin, while it contracts the heart, dilates the arterioles. In fact, I always now use the nitrites for cyanosis or dyspnea in place of digitalis. I have not used erythrol-tetra-nitrate on account of its explosive qualities.

For sudden and violent attacks of dyspnea or angina, whether mild or severe, I give capsules containing each $^1/_{100}$ of a grain of nitroglycerin, ¼ of a grain of amyl nitrite and $^1/_{50}$ of a grain of menthol, with $^1/_{100}$ of a grain of oleoresin of capsicum. These ingredients are suspended in ten minims of castor oil. Relief is usually obtained in less than a minute, often in a few seconds. The capsule may then be given safely at intervals of four hours for days together to prevent subsequent attacks.

In precordial pains and insomonia, especially in the morphine habit, I have used paraldehyde with success. It is a hypnotic, antispasmodic and stimulant. I give it in 30-grain doses, with success, and without any subsequent bad effects. I have also used trional successfully in some instances when there is the opium habit, but I give them only for very brief periods. I never use any preparation of opium except when the patient has the opium habit, which is not uncommon in old cases. One of the most unfortunate results of drugging by digitalis and its allies is that it produces such distressing effects that patients seek relief by opiates. A course of baths and exercises is in these cases a revelation to the patient, who suddenly finds that he can do without either drug.

Digitalis, as is well known, derives its strength and utility from certain glucosides, such as digitalin and its congeners and digitoxin, which regulate the action of the heart and have their most satisfactory field in insufficiency of the left heart. They are inapplicable in an attack of engorgement of the right ventricle, because they do not act quickly enough, so that if there is a heaving impulse, distended jugulars and cyanosis, the indication is rather letting of blood by wet cups.

As a rule, however, I use digitalis only when special complications arise, namely, when we are confronted with urinary suppression or its attendants or sequellæ. It is then desirable chiefly for its diuretic effects. The more I see of heart diseases the more I am convinced that digitalis is uncertain and, therefore, a dangerous remedy in so far as its action on the heart is concerned. It produces spasms of both heart and vessels. In some instances, as in the fatty heart, I believe it may easily cause death in this way. It is truly a two-edged sword, and even in our efforts to get its diuretic effects in suppression, we may cause fatal contraction of the heart. But digitalis is too slow in its action to be relied upon in emergency where diuresis is needed.

In these instances it may be better to use every other means of restoring the action of the kidneys rather than to run the risk of bringing in a fatal cardiac contraction, or, if digitalis is given to secure diuresis, it may be given in small doses every four hours combined with a bitartrate (20 grains). There has been some discussion recently as to the value of digitoxin. It has been claimed to be one of the most active glucosides contained in the *digitalis purpurea*, and has been vaunted as less liable to affect the stomach than digitalin. Its action, however, may be deferred for twenty-four hours, less often for twelve. It is said to be a good diuretic and this characteristic lasts eight or ten days. It will be remembered, however, that Arnold and H. C. Wood (*Amer. Jour. Med. Sciences*, August, 1900) reached the following conclusions from the experiments as to the use of digitalin and digitoxin: Digitalin is a stable compound, etc., while digitoxin is not to be recommended for human medication on account of its irritant action on the stomach when given by the mouth, and because it causes abscesses when given hypodermically, or because it is insoluble and hence is slowly absorbed, making its action irregular. It has also a marked cumulative action. In using digitalis I have latterly confined myself to Merck's digitalin.

Strophanthus is the succedaneum for digi-

talis, but the two have somewhat similar physiological effects. According to Fraser, as a heart compressor it acts much more powerfully than digitalin, and as an arterial depressor much less so. It slows the heart beats, shortening the systole but lengthen the diastole, though unlike digitalis it is not much of a diuretic and does not directly contract the arteries and is not cumulative; in these two last respects it differs widely from digitalis. Unfortunately, in large doses it is apt to produce diarrhea, dyspnea, nervous irritability and cyanosis. It sometimes does well, however, in emergencies, acting more promptly than digitalis, but it is irregular in its actions and its effects are short-lived. It should not be long continued.

Convallaria majalis, the lily of the valley, has much the same physiological action as digitalis. It slows the heart without weakening its tone, and is a diuretic without cumulative action. But in small doses it is an emetic, and it purges actively like jalap or scammony. It is good in dropsies, but inapplicable in mild forms of cardiac disease. It is useful when cardiac stimulation is to be combined with mild diuresis and catharsis. I cannot say that I have ever been much pleased with it.

In adonis, from the *adonis vernalis* and *adonis æstivalis,* we have a drug that owes its properties to a glucoside adonidin whose physiological characteristics are allied to those of digitalis. It slows the heart, regulates it and increases its force and is also a diuretic. It is useless in functional disorders. I have used it, but not in sufficient quantities to be able to speak intelligently of its action.

Sparteine increases the blood-pressure and slows the heart, but it is unreliable, although it may act in twenty minutes or again not for four or five hours. It acts chiefly on the heart muscle, which causes the increased pressure, but it may act also on the vasomotor system. I have had some good though temporary results from it as a diuretic and heart stimulant in doses of $^1/_{20}$ to $^1/_{10}$ grain.

Diuretin, the sodium salicylate of theobromine, is something of a diuretic, though thus far I have not been pleased with its action in cardiac dropsy.

It is well to remember that caffeine is not always made from coffee, but from tea, Paraguay tea, guarana, or the kola-nut; that in large doses or in certain individuals it may produce cardiac spasm and even paralysis, and that its secondary effect on the heart is depressing. Further its action in contracting the vessels tends to congestion, especially of the portal system. The stimulation of the brain and nerves, moreover, produced by caffeine is followed by relaxation. In association with its stimulating action on the heart and vessels, there is a diuretic action when the drug has been administered continuously. Coffee in a certain percentage of cases is a poison. It is not, therefore, always a safe remedy. Usually it is a feeble diuretic, though at times it is effective when other diuretics have failed. I am using it less and less. An error is often made in prescribing citrate of caffeine on the supposition that it has the strength of caffeine. As a matter of fact it contains only 50 per cent. of caffeine.

I must not fail in closing to mention that in place of the hot-air box, used so extensively for diaphoresis in the fatty heart of obesity, rapid reduction in weight may be effected by the use of what is known in England as the "radiant heat" method. The patient lies or sits in a box where the heat is supplied from specially devised electric lamps of large size. This plan is in use in Bath and Leamington (England) and in Carlsbad. It is claimed that heat generated by electricity (radiant) is for some reason more effective in rapid reduction than any other form of heat and peculiarly suited to obstinate cases. My friend Dr. Olive of Leamington, in one case of excessive obesity found it very effective.

In cardiac dropsy, to secure free diaphoresis, I use the muriate of pilocarpine, giving a grain or so a day in divided doses with cardiac and alcoholic stimulants. In fact I have given 1⅗ grains a day, because it requires this amount to secure diaphoresis. Though its action has to be carefully watched by the nurse or physician, I have not had any unfavorable experience with it.

In conclusion, the purpose of this paper will not have been accomplished unless I have made it appear that the idea of complete rest has been surplanted by rest alternating with bodily activity; venesection by determination of the blood to the surface through resistant exercises and carbonated baths; hydrogogue cathartics have been replaced by stomachics and mild laxatives and diuretics; heart stimulants by general nerve stimulants or sedatives, and nutrients, while drugs of the digitalis group are utilized chiefly for their diuretic action in renal complications, mainly parenchymatous nephritis or abdominal dropsy. Drugs of the digitalis group, including strophanthus, convallaria and adonis are always uncertain and, therefore, always dangerous, and should only be employed either when other remedies are inadvisable or in kidney or liver complications, or where we are merely endeavoring to prolong life.

GOUTY AFFECTIONS OF THE KIDNEYS.[1]

BY RICHARD K. MACALESTER, M.D.,
OF GLENWOOD SPRINGS, COLO.

Etiology.—The association of gout and diseases of the kidneys is so frequent that some of the most experienced observers maintain that these organs are rarely found in a healthy or adequate condi-

[1] Read in the symposium on Diseases of the Kidneys at the recent annual meeting of the Colorado State Medical Society.

tion after gout has become fully established. Statistics compiled by Luff of the autopsies of 77 cases of granular kidney disease show uratic deposit in 41, whereas in those described as markedly, or typical granular kidneys, the proportion is 26 to 20. Furthermore, the close relationship between gout and renal disease is amply demonstrated by the well-recognized fact that certain toxic agents, such as lead and alcohol, are productive of both disorders. But, notwithstanding our recognition of the frequent co-existence of the two diseases, and the unrelenting labor of many eminent investigators, the much mooted question as to whether gout is the primary causative factor of kidney trouble, or *vice versa,* is still a matter of controversy.

The rôle of uric acid in the etiology of renal disease, as also in other conditions, is a most perplexing problem. By some observers it is assumed that uric acid and its compounds, acting as a chemical irritant circulating in the blood, set up a destructive process, starting in the epithelium of the convoluted tubes. On the other hand, it has been shown that uric acid is present in the blood only as the soluble sodium quadriurate, an inert non-toxic compound, and it is only under abnormal conditions that it deposits in various parts of the body in the form of the neutral biurate and becomes an irritant. Finally, uric acid may be present in the blood in large quantities, as, for instance, in leucocythemia, but is rapidly excreted without causing any damage as long as the kidneys are in normal condition. It is claimed that only when the functions of these organs are primarily impaired is there deficient elimination of uric acid with all its evil consequences.

Symptomatology.—The clinical symptoms comprise secondary disorders, resulting from renal insufficiency, and differ in no way from those of other forms of chronic interstitial nephritis except for the co-existence of gouty manifestations. As these last named begin to become more chronic, it is not uncommon to find the urine increased in quantity, of low specific gravity, 1006 to 1015, with a deficient amount of urea and uric acid and a small quantity of albumin; microscopically, there are usually few epithelial or granular casts present. Concurrent with these urinary changes are cardiovascular alterations, evinced by hypertrophy of the left ventricle and sclerosis of the arterial system, the arteries becoming hardened and tortuous, and the pulse of high tension.

The course is usually that of the extremely chronic type of Bright's disease, extending often over many years. At first the gouty symptoms preponderate in the clinical picture; later these subside to a great extent and, as the renal trouble progresses, the patient feels relieved of his gout, but finally succumbs to exhaustion, general dropsy, or uremia.

In a goodly number of urinary analyses of gouty patients made by me during the past three years, the above enumerated findings have sometimes been obtained, but by no means in the majority of cases, even in which gout has become eminently chronic, does the urine reveal the co-existence of kidney disease. But common to all cases of gout, as well as lithemia, its next-door neighbor, my quantitative urinanalyses show without exception, a marked diminution in the daily amount of urea excreted quite independent of the slightest evidence, either chemical or microscopical, of a co-existing renal lesion. I report this observation here, being unable to find in the literature, notwithstanding an extended search, any record of this deficient urea excretion, except in conjunction with Bright's disease and general marasmic condition, and I hope to be able to collect sufficient material to present more conclusive results in a future communication.

Pathology.—The so-called gouty kidney is identical in appearance with the small, red, granular kidney of other origin. It is much contracted, with a shriveled granular surface, and the capsules thickened and adherent. The decrease of size is chiefly at the expense of the cortical portion. Microscopically, there are present the signs of destruction of the renal parenchyma with connective tissue formation, degeneration of the epithelium of the uriniferous tubules and the glomeruli, and endarteritis obliterans of the larger arteries. Deposits of uric acid and urates, appearing as white streaks in the direction of the tubes in the pyramidal portion and little white points in the cortical, were attributed to the gouty origin of the trouble, but since these same concretions have been demonstrated in the kidneys of very young children, and in other conditions, they cannot be considered pathognomonic. Besides the small contracted kidney, large, and mixed granular forms have also occasionally been met with, and described as dependent on gout.

Treatment.—There being no specific for Bright's disease, we are compelled to have recourse to symptomatic treatment, dietetics, régime and climate. These vary but little in the different forms of chronic nephritis, and have been thoroughly discussed in other papers. Moreover, broadly speaking, when kidney disease and gout co-exist a course of treatment, proving beneficial to the one, agrees admirably well with the other.

My experience in the treatment of these troubles with mineral water baths has been so encouraging as to induce me to allude to the balneological aspect in this place. We have in Glenwood Springs an unique establishment, known as the Natural Vapor Caves. Thermal springs, boiling up in these, charge the space with vapor and gases and raise the temperature to 110° to 112° F. A few minutes' stay in this atmosphere suffices to set up an intense cutaneous reaction, perspiration continuing, if not checked, for several hours after leaving. The other varieties of baths, though acting in general in a lesser degree of intensity, still exert a sudorific action far in excess of plain water. The cave baths, especially, have proved to be powerful eliminating and absorbent agents in ridding the body of large quantities of water and metabolic waste products, and, in renal disease, relieving the inadequate kidneys

and reducing edema. Indeed, the support given the kidneys is in some cases remarkable and substantiated by observations of, for instance, inebriates with alcoholic nephritis in whom the outbreak of delirium has been apparently averted by the timely application of the baths in conjunction with rational medical treatment. Thus, my experience leads me to believe that our mineral baths, under proper medical direction, are a valuable adjunct in the treatment of renal disease, and in gout their action is nothing short of specific, the benefit derived therefrom being not only temporary, but often lasting. During the "cure" the internal administration of Yampah water is useful; acting as a mild laxative, it also stimulates the functions of the liver and gastro-intestinal tract and improves the condition of the latter.

UREMIA AND ITS DIFFERENTIAL DIAGNOSIS.[1]

BY S. D. HOPKINS, M.D.,
OF DENVER, COLO.;
PROFESSOR OF NEUROLOGY IN GROSS MEDICAL COLLEGE; NEUROLOGIST TO ARAPAHOE COUNTY AND ST. ANTHONY'S HOSPITALS.

IN THIS paper the classification of the symptoms will not be considered, as the nervous, gastro-intestinal and the dyspneic manifestations of the disease are all brought about by the action of the poison in the blood on the central nervous system. As a matter of convenience we will study the various symptoms which occur in the acute and chronic cases of this disease and later take up the differential diagnosis in full.

One of the first manifestations of uremia is the headache, which may be associated with other nervous phenomena, such as numbness and tingling sensations, itching of the skin, dizziness, and gastro-intestinal disturbances. These symptoms are always found in the chronic cases and one or all may precede the drowsiness or usher in an acute attack. The headache is usually dull in character, occipital, extending down the neck.

At the Arapahoe County Hospital I have seen a number of cases in which the headache was unilateral and the paralytic symptoms which followed corresponded to the side on which the headache occurred; at the autopsy edema of the brain was found on the cerebral hemisphere opposite to that of the motor paralysis.

These symptoms may appear suddenly or gradually without any suspicion of disease of the kidneys. Drowsiness is an early symptom and may be slight or severe in degree, and if it is intense it soon passes into coma. The coma from uremia is not as pronounced as that found in cerebral disease. Preceding or during the coma convulsions varying in degree and not localized to any portion of the body may take place, although in the majority of cases one side is more affected than the other. Gowers states: "Rigidity of limbs or local muscular twitching during the coma is, if constant in seat, in favor of cerebral mischief; if variable in position, it is in favor of uremia."

Acute mania, delusional insanity and melancholia may develop, although the latter is not frequently seen. Dyspnea of a hissing character resembling the paroyxsmal attacks seen in leucemia is a typical symptom of the chronic form.

Bradford says, "More frequently, however, the dyspnea is only the accompaniment of other uremia manifestations, and its peculiar hissing quality in a drowsy patient, with bleeding gums, is very characteristic of the uremic state."

In the acute cases the dyspnea is paroxysmal, while in the chronic it is hissing and soon becomes Cheyne-Stokes in character. Monoplegia or hemiplegia may develop after a convulsion or come on gradually without any apparent cause. Frequently in chronic Bright's disease insomnia is a very troublesome symptom and is associated with cramps, twitching, and hiccough without any disturbance of consciousness. The pulse is full, strong and slow early, but as the uremic state becomes deeper it is increased in frequency. The pupils are usually equal although in the majority of the cases seen by the writer the pupils have been contracted, and in one case of interstitial nephritis all the symptoms corresponded to those of opium-poisoning, *i. e.*, contracted pupils, slow respiration, slow pulse, loss of reflexes, deep coma, although a slight trace of albumin and a few casts were found in the urine. One must always bear in mind the peculiar physiognomy in these cases and at times may detect the odor of urine in the breath. The temperature is either normal or subnormal, and when a rise of temperature is present it can be accounted for by some inflammatory process in the body. Suppression of urine may be one of the first symptoms and is a constant one. When vomiting accompanies the scanty urine the vomited material sometimes has the urinous odor. In some cases typical albuminuric retinitis is present and the patient may complain of impairment of vision or may be totally blind.

There is a form of uremia called from its very light symptoms "latent uremia" and due to complete obstructive suppression of urine. The symptoms are as follows: Little headache, nausea, pupils contracted, tongue dry, temperature subnormal, weakness and drowsiness and toward the end slight twitching of the muscles. The most trustworthy signs are the contracted pupils, subnormal temperature and no loss of consciousness.

In making a differential diagnosis the various diseases of the nervous system are first to be thought of. Cerebral hemorrhage may be simulated by the uremic state, but the constant hemiplegia associated with conjugate deviation of the eyes, together with deep coma and inequality of the pupils, would suggest hemorrhage.

Unilateral convulsions are always in favor of cerebral mischief. Local muscular twitching or rigidity, if constant in seat, is an indication of disease of the brain; whereas if it is variable, it is probably due to uremia.

[1] Read in the symposium on Diseases of Kidney before the Colorado State Medical Society.

The temperature in uremia is usually normal or subnormal, while in cerebral hemorrhage it is subnormal at first; later on fever is developed which is higher on the affected side. In uremia the temperature of the body is the same on both sides and is usually due to some complication, such as pneumonia or other inflammatory condition.

The face has a characteristic waxy hue in renal disease, whereas, in hemorrhage it is flushed with the throbbing carotids. If albuminuric retinitis is present, associated with albumin and casts in the urine, without any localizing symptoms, cerebral hemorrhage can be excluded. The same points hold good in cerebral thrombosis and embolism, excepting that in the former we have the prodromal and the local symptoms developed without any disturbance of consciousness or only slight in degree and of short duration.

Latent uremia simulates this vascular lesion more than any other form of the disease. We are not justified in making a diagnosis of cerebral embolism unless a definite cause is discovered, such as endocarditis, a suppurative process in some portion of the body, the parturient state, or blood changes often found in chronic syphilis, with exhaustion. Simple apoplexy of the aged has the same symptoms as the vascular lesions without any pathological change to be found. In tumor of the brain the history of the case, with distinct localizing symptoms associated with marked choking of the optic disks, would be sufficient to exclude uremia, for in kidney disease the degenerative changes which take place in the retina are characteristic. Suppuration in some portion of the body, particularly middle-ear disease, irregular temperature, slight swelling of optic disks, permanent unilateral symptoms are the principal ones of abscess of the brain. Meningitis may be a complication of uremia, or the symptoms in kidney disease may closely resemble the former, but the irregular, slow pulse, rigidity of posterior neck muscles, increased temperature, involvement of cranial nerves, and irregular respiration are typical of meningitis. The pulse in meningitis is the same as that found in uremia, being slow at first and later becoming rapid.

In simple syncope we have no convulsion, rigidity of the muscles, paralysis or any degenerative changes in the retina.

In chloral-poisoning the patient is in a deep sleep without any twitching of the muscles, whereas in uremia as the case progresses the twitching is especially seen in the forearms. The history of the case and absence of any evidence of renal disease would exclude chloral-poisoning. The smell of alcohol is frequently detected in the breath in unconscious cases, but should only be given weight when there is an absence of symptoms of constitutional disease and affections of the nervous system.

The coma in alcoholism is always noisy in character and is never preceded by convulsions. The appearance of the pupils is of little value, for they may be normal, contracted or dilated. In alcoholism paralysis never occurs unless there is a complication, such as peripheral neuritis or a cerebral vascular lesion.

The typical symptoms of the second stage of opium-poisoning are contracted pupils, slow respiration, four, eight or ten per minute, slow pulse, dilated capillaries of the face, and in the absence of albumin or casts in the urine would guide one in arriving at a definite conclusion.

Lead-poisoning may be mistaken for uremia as the attack may be ushered in in the same manner, but the presence of lead in the urine and the blue line of the gums would remove all doubt.

In diabetes mellitus the nervous symptoms and coma may be profound, but the large quantity of sugar in the urine would be sufficient to make a diagnosis. The uremic convulsions may be epileptic in character, but the history of previous attacks, with the tonic and clonic stage, flushed face, biting the tongue during convulsion, the short duration of the attack, and absence of any symptoms of renal disease would prevent a mistake. It is a difficult task to make a differential diagnosis between epileptic coma and uremia when a previous history of the case cannot be obtained. In the latter, however, the increased arterial tension, albumin and casts in the urine, degenerative changes in the retina and hissing respiration would serve to distinguish it from the former.

A malingerer may feign the symptoms of uremia; the two most frequently feigned by these persons are convulsions and coma. Convulsions which are variable in degree and not localized in any particular portion of the body are characteristic of renal disease, while the feigned spasm is general with an absence of any other signs of kidney disease. In the coma of malingering the pulse, respiration, and pupils will be normal, and all other signs of kidney disease will be absent. A person who is feigning coma can be detected by making severe pressure over the supra-orbital nerves or pricking the patient with a pin, causing a voluntary movement of the limb or an utterance of abusive language. This is not true of coma due to the kidney disease, if it is intense.

Hysterical coma is usually seen in females and is ushered in by delirium or may come on suddenly. The temperature may be raised, if severe muscular exertion has been made; otherwise it is normal, as is the pulse. There is retention of urine, but all other indications of renal disease are absent.

In cerebral anemia produced by sudden loss of blood, headache is rare; although in anemia caused by blood states, headache is general and neuralgic in character, associated with drowsiness, vertigo and mental dulness. These symptoms are present in uremia, but are not relieved when the recumbent posture is assumed, as they are in anemia of the brain. The history of the case, absence of degenerative ocular changes, and urinary symptoms will aid in making a differential diagnosis.

The symptoms of cerebral congestion are just

the opposite to those of uremia and are as follows: Face flushed, throbbing carotids, conjunctivæ injected, temperature elevated, full, strong, rapid pulse, no twitching of the muscle and a history of exposure.

Convulsions or coma which are seen in paretic dementia, chronic alcoholism and syphilis, can be detected by symptoms which point to organic disease of the brain.

THE CARDIO-VASCULAR CHANGES OF RENAL DISEASE.[1]

BY J. N. HALL, M.D.,
OF DENVER, COLORADO;
PROFESSOR OF MEDICINE IN GROSS MEDICAL COLLEGE; VISITING PHYSICIAN TO THE ARAPAHOE COUNTY AND ST. ANTHONY'S HOSPITALS.

MANY of the most striking features of nephritis, especially of the chronic forms, proceed from the changes brought about in the cardio-vascular system by the disease. These features are chiefly dependent upon the arteriosclerosis, the high arterial tension, and the hypertrophy of the left ventricle. The weakened vascular wall, unable to withstand the high tension, especially under some sudden overaction of the hypertrophied left ventricle, gives away and cerebral hemorrhage results; or from obliterative endarteritis the nutrition of the brain, the heart muscle, the walls of the large arteries where the vasa vasorum are affected, or other important structures, suffer and a fatal result often occurs. The troubles are practically confined to the systemic side of the circulation, and are most pronounced in chronic interstitial nephritis. Although the exact relations between the high tension, the arteriosclerosis and the cardiac hypertrophy are not yet settled, their association in well-marked cases is constant.

In gout and in nephritis the smaller arteries are usually involved in the sclerotic process, syphilis having a certain predilection for the basal vessels of the brain, and muscular overstrain affecting chiefly the aorta and large arteries. The reason for the especial involvement of the renal arteries is supposed to be that they are particularly exposed to the irritation of the waste products they are called upon to eliminate.

The nodular form of arteriosclerosis, according to Thoma, may lead to such localized weakening of the vessel-wall as to favor the production of aneurism; the senile form may be very general and accompanied by senile atrophy of liver and kidneys, yet the heart is often not enlarged; while the diffuse arteriosclerosis, found in muscular middle-aged men, particularly negroes, is accompanied by marked hypertrophy of the left ventricle. Increased consistence is always to be found in the kidneys. Although the sclerotic changes in the arteries may not be particularly notable to the naked eye, under the microscope the evidence of this change is always decisive.

[1] A contribution to a symposium upon Diseases of the Kidney, before the Colorado State Medical Society, June 19, 1901.

Mahomed believed that in the red, granular, contracted kidney the disease was generally primary in the vessels. The kidneys may be small, we are told by Osler, perhaps weighing no more than one ounce and a half, with great thickening of the small arteries. The view most favorably received at present is that the chief trouble "is in the secreting tissue of the tubules and the glomeruli, and that the connective tissue overgrowth is secondary to this." Mott states that the capillaries of the glomeruli show the hyaline change especially well, and that they are thereby frequently obliterated.

Fagge, quoting Cohnheim, believes that the small vessels of the kidney regulate the amount of blood in that organ, not in accordance with the amount needed for its nutrition, as in other tissues, but in accordance rather with the amount of waste matter contained to be eliminated. In case of destruction of portions of the kidney tissue the remainder must shoulder the whole burden, an increased pressure being obviously indispensable. To increase the pressure in this part of the vascular apparatus it is, of course, essential that it shall be maintained at a high point throughout the body.

Thoma, as quoted by Allbutt, found by injection experiments upon cadavers that fluid could be injected more readily and in much greater amount into the vessels of the subject free from atheroma than in one with marked arteriosclerosis. He concluded, further, that the capillary walls in the latter case were much less permeable to fluid. Mott suggests that the capillary area of the general circulation is greatly diminished on account of the fibrotic changes.

In the brain, in addition to the usual atheroma, an added source of danger exists in the well-known miliary aneurisms. It is thought that one reason for their great frequency here lies in the atrophy of the brain substance around the arteriole, and consequent loss of support to the vascular wall. Another reason is that the vessels are terminal in their nature, and derived directly from large trunks. F. W. Mott states that of 1,600 autopsies at Charing Cross Hospital there were 60 cases of cerebral hemorrhage. Thirty of these occurred in the subjects of interstitial nephritis with hypertrophy of the heart. Fagge lays stress upon the same point. Lancereaux in 61 cases of arteriosclerosis found interstitial nephritis in 55. We may readily conclude that the greatest predisposing cause to cerebral hemorrhage is interstitial nephritis with its accompanying arterial degeneration.

All these points considered, it is not strange that we have cerebral hemorrhage so frequently as the last event in chronic Bright's disease. We have the damaged cerebral arteries, with, frequently, the miliary aneurisms spoken of, and the high arterial tension because of the hypertrophied left ventricle. It is to be expected that, sooner or later, a little temporary increase in this pressure, owing to sudden exertion or otherwise, will cause the fatal rupture. Mott states that apo-

plexy is rare in the absence of cardiac hypertrophy, even though atheroma be well advanced.

The hypertrophy of the heart may not be confined to the left ventricle in extreme cases, but may involve all the cavities, and give an organ weighing three or more times as much as normal. This is probably in part due to the contraction of the muscular coat of the arterioles under the irritation of waste ingredients circulating in the blood and in part to the obliteration of much of the capillary outlet through the kidney, as mentioned by Traube. Many of the fibroid and fatty degenerations of the cardiac muscle are directly due to atheroma of the coronary arteries sequential to interstitial nephritis. Deterioration of the muscular power in these cases means dilatation, relative insufficiency of the mitral valve, and dropsy of the lungs and, finally, of the whole system, if life be prolonged. The edema is in part due to the cardiac failure, in part to the capillary changes and the hydremic condition of the blood. In these renal cases cardiac failure is of relatively greater importance than in others, since it is solely by virtue of the high tension that the kidneys continue to act. In the absence of a serious nephritis the outlook, while less gloomy, is nevertheless grave.

The direct source of the diminshed blood supply through the coronaries is generally a gradually-developing obliterative endarteritis, possibly more marked in certain areas than in others. With such a condition there is always the danger of thrombosis or embolism, with sudden cutting off of the remaining blood supply and almost immediate death.

It is in just such cases as these that angina pectoris is so common. The frequent association of atheroma, angina and aortic regurgitation is to be noted. This form of valvular disease, in these cases, commonly originates in an extension of the atheromatous process of the aorta to the segments of the valve, while the regurgitation at the mitral orifice, as already mentioned, is by a totally different mechanism. The aortic leakage may supervene years after the renal, arterial, and cardiac signs of interstitial nephritis are well marked. Thus I have examined this week a gentleman over seventy years of age, who, two years ago, had an increased amount of urine, with albumin and hyaline and granular casts, hypertrophy of the heart to such an extent that the apex beat was to the left of the nipple, and calcareous arteries. With the exception of marked accentuation of the aortic second sound his heart sounds were then normal. He has now developed a long, soft, blowing diastolic murmur, traceable from the second right interspace to the apex, undoubtedly due to regurgitation from a damaged aortic valve, and presumably by the extension of the atheromatous process mentioned.

Of gangrene of the extremities, especially the lower ones, from a similar process, we need not stop to speak. It does not differ essentially from that found in the absence of nephritis.

Owing to the narrow time-limit necessarily imposed in this symposium I shall touch but momentarily on treatment. Of prognosis it is necessary to say that it must eventually, perhaps only after years, in the cases with albuminuria, palpable arteries, hypertrophy of the heart, high tension and consequent aortic second accentuation, be that of the senility of which it is practically an anticipation. It is probable that iodide of potassium does more good than any other remedy in mitigating the symptoms and delaying the progress of arteriosclerosis. A diet such as one would recommend in gout, with free use of mildly alkaline mineral waters, is in order. The nitrites are most likely to relieve the high tension and associates dyspnea, anginal pain and headache. The eventual cardiac failure and the accidental complications of the disease must be treated as under other conditions.

RENAL FUNCTIONS AND LIFE INSURANCE.*

BY CLINTON G. HICKEY, M.D.,
OF DENVER, COLORADO;
CLINICAL ASSISTANT IN MEDICINE, DENVER COLLEGE OF MEDICINE, MEDICAL DEPARTMENT OF THE UNIVERSITY OF DENVER.

LIFE insurance interests have developed in the past thirty years to such magnitude that a physician can no longer afford to look lightly upon examinations for insurance. "In the United States on January 1, 1899, the level premium companies reported business representing a total insurance in force of $6,825,037,770; and the assessment companies and fraternal orders, an amount stated as $7,779,428,000. In short, nearly 15,000,000 policies were then in force, and $14,624,465,770 is the stupendous total. Nearly every dollar of this great liability represents the opinion of members of the medical profession."[1]

It has been estimated that about one-sixth of the applications for life insurance at standard rates are refused, all causes being taken into consideration, and that at least one-fourth of these rejections are based upon the presence of albumin in the urine.[2] One-twenty-fourth of the total number of applicants! Plainly, they are not all sufferers from irreparable damage of the kidneys.

On the other hand, a proportion of death losses of 10 to 12 per cent. from kidney diseases, as estimated by some life insurance statisticians, shows that in many cases not enough care is exercised in urinary examinations. One conservative old-line company, in its report for 1900 shows 8 per cent. of its death losses from kidney diseases, as against about 10 per cent from tuberculosis. This, too, is not a company which does any sub-standard business.

In securing a sample of urine for examination it is well to be sure that it was passed by the applicant. Cases of substitution come to light not infrequently. Greene cites one which recently came to his notice in which an obliging friend loaned a sample of his normal urine

* Read before Colorado State Medical Society, June 19, 1901.

to an applicant whose own urine by later examination was found to be highly albuminous.

At present most companies require chemical examination of urine in all cases; in a list of twenty-four companies I find but one which requires more than a single chemical examination, except there be two examiners, and that only when the amount asked for is $30,000 or more. Microscopic examination is in most cases not expected, except when specially requested by the company, and this only in suspicious cases. Tests for reaction, specific gravity, sugar and albumin are the only ones commonly required. A persistent alkalinity would suggest the bladder. Some neurasthenics with copious urinary deposit of oxalate of lime crystals have a urine with persistent alkaline reaction.

A high specific gravity may mean but a temporarily concentrated urine, one which will deposit urates on cooling, it may be, and which heat will render clear. The heavy urine of a chronic parenchymatous nephritis would contain an amount of albumin easily determined, together with casts, epithelial, granular and hyaline. There would probably be found, too, at least a suggestion of edema at the ankles, even in slight cases. If high specific gravity be due to the presence of sugar it will be easily shown by either Haines' or Fehling's test. It will not be forgotten, however, that a urine with specific gravity as low as 1015 may contain sugar if, in addition to diabetes, there be interstitial kidney changes.

A urine of very low specific gravity, say 1003 to 1010 may signify the polyuria of diabetes insipidus, especially if it be a young male; if it be a young female it will more probably be that of hysteria. If the applicant is nearing middle life, a urine of the specific gravity mentioned, 1003 to 1010, demands serious consideration, which leads at once to the most important part of this entire discussion, *viz.*, the presence of albumin, either with or without casts; the significance of both and the prognosis of these cases from the life insurance standpoint.

The whole question of albuminuria still continues, as it has been, a moot one. That it is not regarded now, as formerly, as diagnostic of Bright's disease is, however, unquestioned.

"The number and variety of the pathological relations under which albumen may appear in the urine compel us to regard it as dependent not only upon inflammation, grave congestions and other coarse organic changes, but upon slight variations in the mechanical conditions of the circulation in the kidney. Excluding accidental admixtures of blood or pus from the bladder or urethra, albuminuria is met with not only in acute and chronic Bright's disease, but in diseases of the heart, lungs, and liver, in peritonitis, pregnancy, abdominal tumors, in most febrile and inflammatory diseases. In many cases of poisoning, in cancer, tubercle, and syphilis; in lardaceous disease, in anemia, debility, dyspepsia, purpura, scurvy, after paroxysmal hemoglobinuria, in gout, in delirium tremens, in various diseases of the brain and spinal cord, in epilepsy, in certain skin diseases, as well as in apparently healthy persons after bathing, exercise, etc."[3]

A so-called physiological albuminuria has been observed and studied by Leube, Grainger Stewart, Stirling, Senator, and others, as occurring in the apparently healthy in from 4.2 to 44 per cent. of those examined. In these exercise and posture seemed to modify the amount of albumin, it being increased by active exercise and also by the erect posture.

To this class belong also the two forms of latent albuminuria described by Moxon in 1876. The first he called the albuminuria of adolescence. It occurs in youth or young men and is nearly always present in some specimen of the urine collected for forty-eight hours. The other form he called remittent albuminuria, renamed cyclical albuminuria by Pavy. In this, urine passed after breakfast usually contains albumin; there is then a remission and the early morning urine contains none.

Saundby,[4] speaking of this class of cases, says: "I do not care to contend that there is not some departure in these cases from the normal mechanism of the renal circulation; but it is certain that neither this lesion nor the loss of albumen gives rise to any derangement of health which impairs the working capacity of the individual or tends to shorten his life; in other words, there are cases of albuminuria which not only do not require medical treatment, but may be safely accepted by life assurance companies."

Others look upon these albuminurias as being accompanied in all cases by a slight lesion of the epithelial lining of the uriniferous tubules and, therefore, pathological in character; easily recovered from, it is true, but resulting at length, if continually repeated, in permanent pathological change.

Clement Dukes,[5] who has devoted much attention to the albuminuria of adolescence, says: "The cases of early albuminuria, so common in the young, constitute the early stage of what may eventually become developed into that chronic disorganization of the kidneys termed Bright's disease."

So excellent a clinician as Osler, in his "Practice of Medicine," says: "The physician is daily consulted as to the relation of albuminuria and life assurance. As his function is to protect the interests of the company, he should reject all cases in which albumen occurs in the urine. It is even doubtful if an exception should be made in young persons with transient albuminuria."

In the matter of casts and their estimated importance there exists at the present time the same dissonance of opinion. Any one who has made any considerable use of the centrifuge

must have been impressed by the frequency with which a stray hyaline cast or two has been encountered in urine presenting no other evidence of kidney disease. Haines and Skinner[6] claim that by their careful methods of search casts may be found in the urine of persons in perfect health.

Kobler,[7] has studied this question carefully and concludes that the true significance of hyaline casts is not known; that even granular and epithelial casts are often found when no morbid condition of the kidney exists, but when there is gastro-intestinal disease, especially when this is accompanied by violent diarrhea, in some cases also when a condition of constipation is present.

Others, however, are inclined to regard the presence of even the hyaline casts, at least in anything more than the smallest numbers, as of serious import. In this connection I quote Purdy[8] as saying: "Numerous observers have found hyaline casts in non-albuminous urine, but the author agrees distinctly with Bartels in that he has never met with them save in albuminous urine or urine that has recently been albuminous."

By way, then, of summary, in view of the divergence of opinion on these points among competent men, I believe a medical examiner is justified in recommending for insurance an applicant *below middle life,* whose urine may have shown albumin or casts, or both, only after continued observation for a length of time, and even then only as a substandard risk. A safe exception to this rule might be made in cases in which, with other evidences of perfect health, the urine with use of the centrifuge showed but a few stray hyaline casts. *After middle life* the rule should be practically absolute *against* recommendation in the class of cases under consideration.

In many cases near or past middle life great reliance must be placed upon the condition of the heart and the blood-vessels. An apex-beat beyond the nipple line, an accentuated aortic second sound, a moderate atheroma, with a pulse of increased tension, would together be suspiciously suggestive of a contracted kidney even in the absence of any definite urinary evidences of the disease.

In this condition, with urine of low specific gravity, albumin, never present in more than minute quantity, is often absent for days together. This necessitates delicate tests and repeated examinations. If Heller's test is used the test-tube should be set aside for fifteen minutes as a trace may not show for that length of time.[9]

That there is agreement of authorities in regard to the *intermittent presence only* of albumin in many cases of chronic interstitial nephritis makes obvious the inadequacy of the single examination of urine required by most companies in ordinary cases.

The proportion of from 8 to 12 per cent. of death losses from kidney diseases, as referred to before, leads me to suggest that, in my opinion, in applicants past forty years of age life insurance companies would do wisely to require several examinations of urine for albumin, even though there be nothing suspicious in that first presented; and that a large saving would be effected, too, in death losses, if in addition the companies were willing to pay an extra fee for the use of the centrifuge and the microscope in the examination of the urine in all cases in which the applicant has passed the forty-year mark.

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MEDICAL PROGRESS.

Clinical Value of Some Newer Hypnotics.—A common reason for incorrect opinion in regard to the value of hypnotics is the fact that in many cases the mental suggestion acts as powerfully as the drug itself. Another error arises from the fact that a patient who has been sleepless for several nights will frequently sleep on the testing night without any drug. A. E. BROWNRIGG (*Boston Med. and Surg Jour.*, July 18, 1901), in testing the relative merits of dormiol, chloretone and hedonal, selected cases which offered no probability of natural sleep on account of continuous nervous unrest. He concludes that dormiol is the most easily administered. Both dormiol and hedonal proved perfectly safe in ordinary dosage, even when given repeatedly to feeble patients. Dormiol excels in rapidity of action. Hedonal and dormiol are more purely hypnotic in their action than chloretone, and both give refreshing rest. The duration of the sleep with dormiol is somewhat longer than with chloretone and much longer than the sleep produced by hedonal. After the sleep produced by chloretone there is a tendency to drowsiness for some hours. The very defects of chloretone, however, make it valuable in certain selected cases. Dormiol, while not the most powerful sedative we possess, answers well the requirements for a generally serviceable hypnotic. Hedonal is especially applicable to slight forms of insomnia unassociated with bodily pain or severe mental excitement.

A Modified Plaster Splint.—J. R. BENSON (*Lancet,* June 29, 1901) has found the following a convenient and serviceable hinge plaster splint. The coverings are of flannel, outer and inner. The width of each is the length of the splint, for example, from the knee to the ankle. The length of the inner covering

permits it to pass twice around the limb, so that the redundancy may be folded back upon itself. The length of the outer covering encircles the limb half way. There the excess of the inner compensates for the deficiency of the outer. At a point corresponding with half the length of each a seam is run fastening the two together in a hinge, which is parallel with the width. This seam therefore embraces *two* thicknesses of the flannel. The pieces are now folded upon the hinge and a second seam is run a quarter-inch from the first through the *four* layers of flannel as they thus lie each to each. This second seam now becomes the true axis of the hinge, while the former creates a convenient strengthening ridge. Between the outer and inner flannel layers on either side of the hinge, the stiffening of plaster of Paris is to be inserted. The hinge-ridge passes best down the front of the limb or the side parallel with the long axis. The larger or inner piece is now wrapped about the limb and tacked in a straight line just opposite the hinge line. Between these points the plaster is applied as a bilateral molded splint and the outer flap of flannel is laid over it reinforced by the return folds of the long inner flannel. The whole is then covered till dry with an ordinary roller bandage. When the splint is hard the bandage is removed, the tacking is cut and a beautiful hinged splint is formed.

Presence of Specific Antibodies in the Blood of Animals Treated With Different Sera; Also Their Use in Legal Medicine.—The recent discovery of specific precipitates, produced experimentally in the body, which act upon various bacterial products, milks, peptone, egg-albumin and human blood, has led G. H. NUTTALL and F. M. DINKELSPIEL (*Jour. of Hygiene*, July, 1901) to investigate this subject. In their experiments only rabbits were used and the blood, pleuritic exudate, etc., were injected intraperitoneally in quantities of 5 to 10 c.c., beginning with the smaller dose and never exceeding the larger. Effective antisera were obtained after the fifth or sixth injection. They treated thus some sixteen rabbits with dog, sheep, ox, horse and cat sera, also with defibrinated blood and pleuritic exudate. Their conclusions confirm and extend the observations of others with regard to the formation of specific precipitates in the blood of animals so treated. These precipitates are specific although they may produce a slight reaction with the sera of allied animals. The substances in the serum which bring about the formation of these bodies are remarkably stable. This new test can be successfully applied to a blood which has been mixed with that of several other animals and it is the most delicate means hitherto discovered of differentiating bloods. It is to be expected that it will be put to forensic use.

Bacteriology of Vaccinia and Smallpox.—Basing his work upon the postulates that, in order to establish the pathogenesis of any given micro-organism to any specific disease, the organism must be constantly present, that it must be present in sufficient amount and in the proper location to account for the symptoms, and that it must be possible to inoculate it in pure culture into animals and produce the characteristic symptoms, M. FUNK (*Ctlblt. f. Bak.*, July 5, 1901) has investigated the bacteriology of vaccinia and variola. Upon discovering that he had to do with a protozoa of which there could be no culture in a bacteriological sense, he adopted the use of emulsions of these organisms and proved their pathogenesis to these diseases by successful animal inoculation and the production of an artificial immunity. Pus taken from a vaccine pustule remains sterile on all culture media and microscopical examination shows no bacteria. Vaccine lymph ready for use, taken from a great variety of sources, shows a great number of bacteria, the majority of which are saprophites, only a few being pathogenic and none of these being common to all varieties of lymph. This lymph when preserved for three or four months becomes sterile, probably due to the presence of glycerin, yet this sterile lymph is always active and produces typical vaccine pustules. From these facts he concludes that vaccinia is not a bacterial disease. All vaccine lymphs also contain protozoic cells some of which are filled with spores and are then known as "sporidium vaccinale." These may be easily confounded with epithelial cells if they are not observed by means of the "hanging-drop" technic. There are also free spores present in the fluid. By emulsifying these spore-filled cells in sterile bouillon and injecting this into animals he was able to produce typical vaccine pustules and also to produce an immunity to the inoculation with ordinary vaccine lymph. He therefore concludes that these bodies are the cause of vaccinia. Pus from smallpox pustules shows the abundant presence of these bodies. By means of the "hanging-drop" method and a suitable temperature, he was able to see these protozoic cells sprout and the spores develop into new cells. These bodies, taken from smallpox pustules, inoculated into calves produce true cowpox and confer immunity thereto. Hence he believes that vaccinia and smallpox are identical affections.

Congenital Lymphadenoma.—E. BONNAIRE and DECLOUX (*La Presse Méd.*, July 13, 1901) reported the case of a child who two days after its birth was brought to the hospital because of its weakness. The large abdomen contrasted strongly with the emaciated trunk and head. The weight of the infant was only 1,700 grams. The skin was very white, the features pinched and the lower extremities edematous. Physical examination revealed ascites and a regularly-enlarged liver extending to the margin of the pelvis. A voluminous mass was felt in the left hypochondrium, resembling

an enlarged syphilitic spleen, and the clinical diagnosis of congenital syphilis was made. The ascites was attributed to the supposedly sclerotic liver and the edema of the extremities to the pressure of the ascitic fluid. Cyanosis developed three weeks after birth and death followed two days later. The autopsy revealed whitish nodules, varying from 1 to 5 millimeters in diameter, in the parietal pleura, the parietal pericardium, peritoneum, and mesentery. Submucous nodules were found in the stomach and intestine, and the enlarged liver was strewn with whitish nodules of varying size. The spleen was macroscopically normal. The mass which had been palpated on the left side proved to be the suprarenal capsule, which entirely covered the subjacent kidney, the latter being normal in size and structure. Microscopically the liver, pancreas, suprarenal capsule, spleen, lungs, pleuræ and pericardium were found to be invaded by adenoid tissue.

Practical Blood Examination.—The scope of practical blood-examination at present is stated by H. F. Hewes *(Boston Med. and Surg. Jour.,* Aug. 1, 1901) as follows: (1) The determination of the existence or non-existence of anemia and, if present, of its severity and type. (2) The determination of leucocytosis, its extent and type, including the diagnosis of myelogenous and lymphatic leucemia. (3) The determination of the presence or absence of blood-parasites, including diagnosis of malaria, filaria sanguinis hominis, and relapsing fever. (4) The determination of the existence of definite serum reactions as the Widal test for typhoid. (5) The determination of the presence in the blood of bacterial organisms; that is, of septicemia. Nine-tenths of all clinical blood-work may be done by the employment of two very simple methods of examination, namely, the estimation of the hemoglobin and the examination of a stained specimen of blood. The examination of fresh specimens of blood and the use of counting methods furnish added knowledge, which, however, is frequently not necessary for diagnosis. More recently developed methods of equal practicability as yet lack the testimony of extended experience in regard to their usefulness. The most important and promising of these methods is the test for iodophilia, said to be of value in conditions of suppuration (except in tuberculosis) and in croupous pneumonia.

A Ramifying Diphtheria Bacillus.—A. Cache *(Ctlblt. f. Bak. u. Infect.,* July 8, 1901) makes further study of a ramifying bacillus found by Ouchinsky in 1900 in a tube of his mineral media in which he had sown some months previous diphtheria bacilli. He made transplants from the original culture into several new tubes of this mineral media and incubated these for three months. At the end of this time lamellæ were present in the bottom of these tubes. These on microscopical examination were found to be composed of ramifying threads. From these transplants were made into bouillon, agar, and gelatin. On gelatin and agar the growth produced a membranous formation firmly attached to the surface of the media. In bouillon no cloudiness was produced, but the formation of small white flocculi was noted. By repeated transplants into bouillon, agar and gelatin, he was able to obtain a micro-organism morphologically identical with the diphtheria bacillus, pathogenic for guinea-pigs in from thirty-six to forty hours, and producing pathological lesions characteristic of diphtheria. He thinks, therefore, that these micro-organisms were genuine diphtheria bacilli. He believes that the microscopical and cultural methods employed exclude the supposition that contamination with some filiform organism was present or that he was dealing with a case of symbiosis.

Treatment of Tuberculous Lymphadenitis.—R. Hammerschlag *(Prager med. Woch.,* July 18, 1901) states that analysis of statistics shows a higher percentage of cures by the well-known iodoform-glycerin injections than by extirpation of enlarged glands. The former method of treatment is favored also for the following reasons: It is simple, safe in the hands of the general practitioner, leaves no scar, is relatively painless, and requires no cessation of occupation on the part of the patient. No matter how the superficial and accessible cervical glands are treated, the far more dangerous bronchial and mesenteric nodes remain.

A Case of Cervical and Bulbar Tabes with Necropsy.—The autopsy in this case was performed by W. G. Spiller *(Amer. Jour. Med. Sc.,* Aug., 1901) who reports the following important findings: Degeneration of the posterior roots of the cord especially in the middle and upper thoracic region and on the left side in the lower cervical region. No distinct degeneration of the columns of Goll; very slight degeneration of the columns of Burdach. Atrophy of inferior part of the left twelfth nucleus. Degeneration of the left descending root of ninth and tenth nerves. Degeneration of the spinal root of each fifth nerve. Atrophy and changes in the nuclei of the oculomotor nerve. In the history of the case reported by S. Solis Cohen the following data are noted: Acquisition of syphilis some years before nervous symptoms developed; attacks of nocturnal incontinuence of urine beginning in 1872: ptosis of right eye in 1879; varying contraction and dilatation of the pupils; weakness of facial muscles; difficulty of mastication and deglutition; atrophy of the tongue; disturbance of sensation for temperature and pain; griping abdominal pains; neuralgic pains in lower limbs; "suspicious grayness" of the optic disc; inequality of pupils; loss of light reflex; loss of power of accommodation; failure of vision —all observed in 1888—loss of sexual power. Later there developed atrophy of the upper limbs; pain in ulnar distribution of right hand.

There was no incoordination in the upper limb movements. In 1889 the knee-jerk was still well preserved, which accords with the necropsy finding of an almost complete integrity of the posterior roots of the lumbar region.

Pathogenesis of Tumors.—CHARLES POWELL WHITE (*Jour. of Path. and Bac.*, June, 1901) reviews the theories which have been advanced to explain the origin of tumors, the relation of tumors to other pathological processes, and the growth of special tumors. He concludes that as a rule they have their origin in normal tissue-cells. The extrinsic causes of tumor formation, as far as they are known, do not differ essentially from the extrinsic causes of inflammation, etc. In the case of tumors we cannot often determine these causes; the parts, however, being in a very unstable equilibrium, a very slight cause would be able to disturb the relative position. The essential differences between progressive and reparative processes lie in the condition of the body with respect to equilibrium. In the first case this is unstable and in the second stable. It is not possible at the present day to say in what this difference actually consists. Most tumors grow by centrifugal growth. In the case of carcinoma, however, it is possible that centripetal growth may play a small part in the formation of tumor. He thinks that the treatment should not only be local, but should also be directed to the general condition of the patient.

Changes in Polymorphonuclear Neutrophilic Leucocytes in Infectious Diseases.—The existence of structural alterations in polymorphonuclear leucocytes is said by H. HIRSCHFELD (*Berlin klin. Woch.*, July 22, 1901) to be characteristic of certain infectious diseases. The alterations in question are not apparent when fresh specimens are stained with Ehrlich's triacid stain, but are seen when methylene blue or methylene green is used. In ordinary blood the granules of polymorphonuclear leucocytes are refractory to methylene blue, while in lobar pneumonia, measles with bronchopneumonia, scarlatina, and acute phthisis with high fever, the granules referred to show an affinity for this stain. The granules may be distributed through the protoplasm, as are normal neutrophilic granules, or may be concentrated in certain areas to the exclusion of others. The alteration sometimes affects all the polymorphonuclear cells, but may involve only a portion of the whole number. The reaction was obtained by the use of dry cover-glass preparations, fixed either with heat or alcohol, and stained with a 1-250 solution of methylene blue.

Anesthetics in Heart Disease.—The results of a study of 142 cases suffering from various forms of heart disease and operated on under anesthesia for various minor and grave troubles are presented by J. M. T. FINNEY (*Amer. Jour. Med Sc.*, Aug., 1901). From a comparison of the behavior of these cases with others operated upon for similar affections under the same conditions, the author concludes that in the myocardial affections only do anesthetics exert any markedly bad effects. In valvular disease their influence is slight, but appreciable; in functional disturbances, insignificant. To seven cases suffering from myocarditis ether was given; to one, chloroform and ether Five took ether badly and three took it well. In the case to which chloroform was administered it had to be discontinued and ether substituted on account of rapid, irregular and weak pulse, cyanosis and disturbed respiration.

Cardiac Hypertrophy.—JOHN GUTCH (*Jour. of Path. and Bac.*, June, 1901) has pursued investigations to ascertain whether cardiac hypertrophy is brought about by a numerical increase of the muscle fibers, an increase in the size of the individual fibers or by a combination of both of these factors. He took specimens of the heart muscle from four locations, namely, left ventricular wall at the junction of the upper with the middle third and near the ventricular septum; muscularis papillaris of the mitral valve; right ventricle, front wall of the junction of the upper with the middle third; muscularis papillaris of the tricuspid valve. He employed a micrometer eye-piece one division in the scale of which was equal to .0037 millimeters. One hundred muscular fibers were measured in each specimen. As the result of his work he believes that the increase in the size of the heart is largely due to a hypertrophy of the individual muscular fibers. The increase in the breadth of the fibers is not sufficient to account for the whole increase in the weight of the heart. Some hypertrophied hearts, especially those of interstitial nephritis, are more difficult to tease out than is the normal muscle. This probably depends upon an increase of interstitial tissue which can be seen in teased-out specimens. It is at least probable that along with the increase in breadth there is also an increase in length. These factors are sufficient to account for the whole increase in weight without supposing that any numerical hyperplasia of fibers takes place, while on the other hand no direct evidence of such hyperplasia, such as karyomitosis, has ever been brought forward.

Tracheal Tug in Conditions Other Than Aortic Aneurism.—HENRY SEWALL (*Amer. Jour. Med. Sc.*, Aug., 1901) points out that a tracheal tug quite palpable in character is in many cases associated with and dependent upon adhesions of the left pleura. Diminished extensibility of the lung tends to produce the same phenomenon, and the tug is most pronounced when these conditions are combined. In normal individuals a laryngeal jerk may likewise follow the heart-beat and the proportion of normal males manifesting the sign is double that of normal females. This is explained by the predominance of the diaphrag-

matic type of respiration in the male. The descent of the heart with the inspiratory movement of the diaphragm may so press the aortic arch upon the left bronchus as to impart to the trachea the aortic pulse, recognized at the larynx as a palpable tug.

Treatment of Urinary Infiltration, Urinary Abscess and Fistulæ.—Infiltration results usually from stricture and hence the site of escape is commonly found to be just posterior to the bulbous urethra, where stricture is apt to occur, says H. HARTMANN (*La Presse Méd.*, July 13, 1901). Two principles govern treatment; first, give free means of exit to the urine which has already found its way into the tissues; second, prevent the further escape of urine. In making free incisions to facilitate the removal of infiltrated urine, this writer prefers the bistoury to the thermocautery. Parallel incisions are recommended at distances of three to four centimeters. A wet dressing is then applied, or, to control hemorrhage the better, a dressing of iodoform gauze. By means of a perineal incision a drainage tube is introduced to carry off whatever urine may continue to find its way through the urethral lesion. The removal of the stricture is essential, but urethrotomy, if necessary, should be postponed until the tissues are restored to a healthy condition. In the treatment of urinary abscess it may be regarded as a tumor and totally extirpated, or it may be incised and drained like a common abscess.

Serumtherapy in Typhoid Infection.—E. W. AINSLEY-WALKER (*Jour. of Path. and Bac.*, June, 1901) has undertaken experimental research in order to determine, as nearly as possible, how far the value of sera was effected by the variety of the bacillus typhosus employed and what modification if any resulted from the employment of several varieties either together or in succession; also the relation of the colon bacillus to the immunity produced. After reviewing the methods used by Pfeiffer, Kolle and Bokenham, in preparing these sera, he concludes as follows: (1) There is evidence that a serum can be obtained by the immunization of horses against the bacillus typhosus. (2) The initial stages of the preparation may be greatly shortened by the method of Bokenham. (3) A high degree of immunity must be obtained and the use of living cultures in the later stages is desirable. (4) The serum must be made widely polyvalent by the use of as many and largely different races of typhoid bacilli as practicable. (5) The relative value of the serum obtained may be determined by its relative agglutinative power. (6) It is an open question whether the efficiency of the serum might not be further increased by immunization of horses against the colon bacillus also by the addition to the serum of a certain proportion of anticoli serum from a horse treated with that organism.

Cancer of the Uterine Neck.—It is maintained by J. M. BALDY (*Jour. of Amer. Med. Assoc.*, Aug. 3, 1901) that cancer of the neck of the womb, as far as results go to-day, is practically incurable. A careful analysis of reliable statistics, says this author, will show that where 20 to 60 per cent of cures are claimed, the percentage of real cures is nearer 2 to 5 per cent. Hemorrhage, with beginning loss of flesh and strength, is the diagnostic feature of the early stages. Where there is a single show of blood several years after the menopause, no matter from what exciting cause (traumatism excluded), cancer should always be suspected. Even during a woman's menstrual life, the family doctor should suspect cancer in every case of irregular bleeding not otherwise readily explainable. Even very minute quantities of blood appearing at times incompatible with the physiologic flow demand rigid attention.

Hemolysis.—The efficacy of transfusion of blood has been doubted for some time on account of the suspicion that the blood of one animal acts as a toxic agent to the blood-cells of another. Transfusion, even of blood from one person to another, has now been generally discarded, since the susceptibility to hemolysis has become so thoroughly understood. S. J. MELTZER (*Med. Rec.*, Aug. 3. 1901) has made a careful study of the action of the blood of one animal upon the blood of another and finds that when a bullock's blood, for instance, is injected into the peritoneal cavity of a rabbit it soon becomes so changed that it loses a part of its power to cause a destruction of the blood-cells of the rabbit when injected into the rabbit's jugular vein. Again, the normal serum of a guinea-pig which has very little or no effect upon the red corpuscles of a rabbit, may acquire a marked hemolytic power if the guinea-pig is treated several times by subcutaneous injections of rabbit's blood. This is called "hemolysis by immunization," and such facts as this disclose the possibility of various interesting and valuable therapeutic measures. One practical application is found in the fact that by injecting human blood into rabbits the serum of the latter is caused to take on a characteristic turbidity and a flocculent deposit is caused in the human blood even if this is in the form of an old small dry spot. Human blood may thus be distinguished from that of any other animal with absolute certainty, except from that of monkeys.

Mental Disturbances in Cardiac Disease.—Psychical disturbances in cases of cardiac trouble are extremely common, but very little attention is paid to the exact causes of the trouble. A. ZEDERBAUM (*N. Y. Med. Jour.*, July 27, 1901) says that there is no consensus of opinion among clinicians as to the causal relation between abnormal functions of a diseased heart and these mental disorders. It is easily understood, however, how the nutrition of the brain would be greatly influenced by an impaired circulation. Altogether, psychoses are more frequently observed in connection with aortic defects than in failure of the mitral valves. The symptoms of mental disturbance here partake more of the nature of mania and resemble the delirium of an alcoholic pneumonia. Extreme irritability, ex-

citement, fretfulness, restlessness and inconsistency make it sometimes very difficult to control the patient. Suspicions of insanity may even enter the minds of the observers and at times outbreaks of real mania do occur. Troublesome and exhaustive sleeplessness are especially noticeable in aortic insufficiency. Mania and melancholia seem to be the most common forms of mental alienation in cardiac cases and these are also most prevalent in cases of puerperal insanity which the author believes depend largely on the cardiac condition.

Treatment of Infantile Diarrhea.—W. H. ROBEY, JR. (*Phila. Med. Jour.*, July 27, 1901) states that, although the specific cause of infantile diarrhea is unknown, the condition is first a local one, due to the toxic products of enormously-increased numbers of bacteria, and later constitutional symptoms develop from the absorption of these products. The treatment is as follows: (*a*) Cleanse the bowel of bacteria and their toxic products by the use of one grain of calomel in one-tenth-grain doses at half-hour intervals, combined with colon irrigations. (*b*) Provide unsuitable culture media for the bacteria by withholding food for twenty-four hours and giving sterile water at frequent intervals. It is perhaps well to allow the mother to think that she is giving a food in order to carry out this important part of the treatment. For this purpose albumin-water (whites of two eggs, a pint of boiled water, a pinch of salt and a teaspoonful of brandy) may be employed, a half a teacupful being given every two hours. Vomiting may be relieved by washing the stomach, using a soft rubber catheter, and a high temperature lowered by a tepid bath. After twenty-four hours the child should be put on a weak modification of sterilized milk. (*c*) Soothe an irritated intestine when the long-continued condition makes it necessary. (*d*) Support the patient against constitutional symptoms, as in other acute diseases of childhood. (*e*) Guard against infection of others by isolation, when possible, and scrupulous cleanliness.

Ruptured Uterus in a Multipara.—J. POLLOCK SIMPSON (*Brit. Med. Jour.*, July 13, 1901) reports a case in which the direct cause of rupture seems undoubtedly to have been due to the struggles of the child. These violent paroxysms were induced by the mother's chopping off the protruding arm with a bread knife. It was a posthumous child, but the husband had been dead twelve months. The mother in her effort to conceal the birth had adopted this radical method of accouchement and the child retaliated with lethal interest.

Diplococcus Rheumaticus.—F. J. POYNTON and A. PAINE (*Lancet*, July 13, 1901) report on arthritis produced in rabbits by the intravenous injection of a diplococcus isolated from cases of rheumatic fever. It is a small germ which they have demonstrated in eighteen cases. They believe it to be identical with the diplococcus of Triboulet and Wassermann. Their conclusions, deduced from a large number of cases of arthritis in rabbits are as follows: Arthritis is frequent, but not invariable. It is a polyarthritis, affecting especially the largest joints. The severity varies and recovery is either partial or complete. The exudations are clear, blood-stained, turbid or fibrino-cellular. The germ is found in the exudations, but with difficulty in the most acute and in the chronic cases. It probably gains access to the joints by the blood capillaries in the areolar layer of the joint capsule.

Myelopathic Albumosuria.—T. R. BRADSHAW (*Brit. Med. Jour.*, July 13, 1901) reports a case of this rare disorder, making the total sixteen. It illustrates two important points, one of which is new. (1) The presence of albumose in the urine is the earliest symptom of the disease and it exists for months without evidence of failing health or local signs of alteration in the skeleton. (2) The albumose is first excreted in small amounts, but, as in many cases of ordinary albuminuria, since it causes no inconvenience, it is often undiscovered till the disease is far advanced.

Recurrence of Experimental Malaria.—P. THURBURN MANSON (*Brit. Med.* Jour., July 13, 1901) cites his own case. He was exposed to the bites of mosquitoes fed in Rome on a case of benign tertian ague and in ten days developed a typical tertian fever. Quinine treatment was continued for three months. Nine months from the time he was bitten Dr. Manson developed symptoms of malaria. These were sufficiently severe to confine him to bed; his temperature rose to 103° F. Blood films showed both young and old forms of the parasite of double tertian ague.

Diachylon as an Abortifacient.—W. WRAUGHAM of Wadsley (*Brit. Med. Jour.*, July 13, 1901) reports the alarming increase of women who are more or less seriously injured by the use of lead pills administered by midwives and abortionists. Just as the use of phosphorus, arsenic and other poisons, is swayed by fashion and interestingly governed by locality, the exhibition of this most dangerous abortifacient is more or less of a fad just now and is restricted to Leicester, Birmingham and Sheffield. The important points gathered from a study of five cases are as follows: The primary effect of the poison is on the nervous system,—not on the stomach nor gut. No less than four cases presented grave optic neuritis and ocular paralysis. The incubation period of lead, if such it might be termed, is shown to extend over several weeks and frequently there were no symptoms till after the drug had been stopped. The purely social-economic side of this question, quite apart from any ethical considerations, is of vast import. Particularly is this true when one considers that not only are the mothers almost invariably killed or permanently crippled—blindness being very frequent—but the children occasionally survive to drag out a helpless life at the expense of the State. The writer ably asks why, if the Home Secretary be notified of the industrial forms of lead-poisoning, he should be kept in ignorance of this, the most pernicious of all.

THE MEDICAL NEWS.

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OF MEDICAL SCIENCE.

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DIURETICS IN KIDNEY DISEASE.

A PROPER study of diuretic medication presupposes a knowledge of the physiological phenomena underlying diuresis. While many facts are known regarding the grosser mechanical factors concerned in such action, it is unfortunate that we are far from knowing the more intricate and subtle changes that take place in the renal tissues, especially since painstaking observations have been in progress for at least fifty years.

From the first anatomical studies of Malpighi and Henle, and the physiological researches of Bowman, to the present time, hypotheses as to the relative importance of this or that histological element as the active factor in the elimination of the various urinary constituents, liquid and solid, have had their brief day on the stage of popular belief and have then passed into the realm of the disproved, if not forgotten.

In the present issue of the MEDICAL NEWS we present a series of papers bearing on disease of the kidneys and in the report of the investigations of Dr. Elliott is set forth a noteworthy contribution to the eminently practical problem of the relationship of diuretic medication to renal disease, taking into account the present status of the much-vexed question of kidney physiology and diuretic action.

At the same time we would call the attention of our readers to an interesting research made by Henri Anten (*Archives Internationales de Pharmacodynamie et de Thérapie,* Vol. VIII., fasc. v., vi) on the diuretic action of caffeine and theobromine. This investigator has gone over the entire ground and, while arriving at many conclusions already well grounded, has served to establish more fully the principles that should guide one in the use of the xanthin derivative group of drugs.

He shows that, as a primary consideration, it may be taken as proven that the epithelium of the convoluted tubules of the ascending loop of Henle is the important factor in the elimination of uric acid, in major part at least, and, it may be in less degree, urea. He moreover emphasizes the fact, now fairly well established, that the xanthin bodies stimulate renal epithelium and thus aid in the elimination of nitrogenous substances. In marked contrast to this action of the xanthin bodies is the influence of salines, which by stimulating the glomeruli favor the elimination of water and of inorganic salts, notably the chlorides.

The xanthin bodies then by their specific action in stimulating renal epithelium, bring about increased elimination of urea, water, nitrogenous bodies and it may be of some salts as well, and thus render the blood poor in urea and in salines; it thereby eliminates less of these bodies as the diuretic action progresses; on the other hand, the saline diuretics incite a watery diuresis which renders the blood richer in uric acid and urea.

Several practical lessons are suggested by these results; thus, in acute parenchymatous disease of the kidneys, as Elliott has already pointed out, diuretics may be of little avail, certainly the xanthin diuretics, caffeine and theobromine, are contra-indicated; whereas in subacute and chronic conditions, associated with diminished uric acid and urea output, they may prove distinctly valuable. A further interesting dietetic factor is brought into prominence, namely, the use of nitrogenous food, especially those rich in proteids which in their normal katabolism break down to xanthin bodies,, guanin, adenin, etc. From early days it has been taught that meats should be avoided, and certainly for the acute

stages the reasons are apparent, but it is quite an open question whether or not a limited amount of meat might not prove at least harmless in the treatment of chronic Bright's disease.

DOG-DAYS AND RABIES.

WE are passing through what are called the dog-days. In many parts of the country local tradition gives this name especially to the latter part of July and the beginning of August. The exact limits of this supposedly fell season are not definitely settled, for all during these two months it is popularly credited that dogs are much more liable to go mad. The heat and lack of sufficient water are supposed to be the active agents in the increase of madness among dogs at this time, and many elaborate theories have been evolved to account for the occurrence of the disease.

It seems almost too bad to take away the occasion for this brilliant theorizing, but the facts are all against the supposition that more dogs go mad in the summer than in other seasons. For so long as we have accurate statistics on the subject, rabies has been more frequent in the latter months of winter and the beginning of spring than at other times of the year.

As a matter of fact the dog-days are so-called, not with any reference to our domestic pet animals, but because Sirius, the dog-star, is during July and August in its heliacal ascendant. The Latins had the habit of calling this star simply *canis,* the dog. The popular imagination, after the original derivation of the term dog-days—the time of the dog-star—was lost, clothed the words with a new significance. This popular error has been and is yet, the source of no little apprehension. It is practically only at this time that the general public take any interest in the possible spread of rabies, because dogs are allowed to run loose without let or hindrance. At all other times the great principle of personal liberty is supposed to be sufficient justification for every citizen maintaining his portion of the nuisance that the presence of dogs on our city streets involves.

Rabies or hydrophobia is not a common disease, but careful investigation shows that the affection is on the increase in this country. D. E. Salmon, Chief of the Bureau of Animal Industry of the United States Department of Agriculture, makes the following statement in an article in the Year-Book of the Department for 1900: "It may safely be concluded that instead of being a much rarer disease than is generally supposed, rabies is a much more common disease than we had reason to expect." Salmon only reechoes the views of all the Boards of Health throughout the country which have seriously taken up the investigation of the disease.

It used to be a favorite theory of many people, including even some medical men, that rabies did not exist at all or, at least, did not exist in this country. Its supposed symptoms were set down as neurotic manifestations in hysterical or high-strung persons on whom the stories of hydrophobia following dog-bite produced a profound effect. American physicians who harbored any such notions were rudely shocked by finding how more and more seriously the disease was taken by European medical and civil authorities. No important nation in Europe is now without special regulations for the prevention of the disease and special stations for its specific treatment.

Well-authenticated cases of rabies occur in the hospitals of our large cities every few months. There is no longer any plausible reason to doubt the existence of the disease in this country. Since the establishment about two years ago by the German Government of a Pasteur Institute for the treatment of rabies, there is no reasonable excuse for the slur so common before, namely, that Pasteur had invented a treatment of which we know nothing for a disease the cause of which we know even less. Rabies is one of the diseases that, like tetanus, brings with it suffering and eventually death for those who were only just before strong and healthy. It is especially sad in its ravages, because it takes for its victims, as a rule, not the weaklings, but those who are in the prime of life and vigor. Its eradication therefore would be one of the unmixed blessings that sanitary regulation could confer on our generation.

It is almost needless to say that the disease does not originate even in animals because of heat or from lack of water, or from poor nourishment. Rabies is a specific disease the germ of which we do not as yet know, although we have now no doubt of its existence. The affection is spread by the inoculation of the virus of the disease into healthy animals or human beings. The saliva of affected individuals contains the germ of the disease and it is by this secretion that inoculation takes place. It affects many animals besides the dog, but dogs being practically the only animals allowed at liberty they are the usual transmitters of the disease. If all dogs in New York State were to be muzzled for six months, and thereafter all dogs imported into the State required to wear an effective muzzle for the same

length of time, we would be rid of the danger of rabies forever. The disease is not rare in this State and last winter its presence became so noteworthy in the Western part of the State as to excite serious alarm. The repressive measures mentioned would not seem severe even to the overwrought imaginations of our antivivisectionist friends. Their enforcement would be a cheap price to pay for the riddance from fear on the part of many timorous individuals that would follow.

There is no good reason why so many dogs should be allowed to run at large as at present. While it is a generally accepted axiom in public polity, it would be very hard to prove that every man who wishes has an inalienable, God-given right to own a dog and to allow that dog to be as much of a nuisance as his dogship wills and his master (or mistress) permits. It is probable that dogs are also bearers of diseases other than rabies. They are, for instance, by no means as immune to tuberculosis as was formerly thought. It seems likely that they are sometimes the source of human tuberculosis in children. Their relation to the echinococcus as the source of that parasite for human beings is well known. The dog-days and the apprehension of pet animals that they occasion might well serve as an opportunity to physicians for the formation of a proper public opinion with regard to the utter inadvisability of allowing these animals the liberty of our streets, not alone during the hot weather, but at any season of the year.

WHERE TO SETTLE.

THIS unusually puzzling and all important question is occupying the minds of at least some hundreds of recent graduates in medicine. There are, naturally, many circumstances that must be taken into account in its answer.

So far as the material elements of the problem are concerned, the recent census furnishes some interesting statistical considerations. The number of inhabitants to doctors in this country is not large. There are for each physician only 1,215 people. In many States the number of inhabitants to each physician is much lower than this. Some of the States and territories are especially scant in their provision of physicians for possible patients. It might seem that in some of these inadequately-supplied States the recent graduate in medicine would find a welcome that is only too long delayed in regions medically better provided for.

Mississippi, for instance, has but one physician to every 1,548 inhabitants; New Mexico, one to every 1,406; North Dakota, one to every 1,347. There are more than 1,100 inhabitants to each physician in North Carolina, Minnesota and Wyoming. Utah, South Carolina, and Louisiana have more than 1,000 to each physician. On the other hand, the District of Columbia has but 325 inhabitants to each physician; California has only 392 people to go around to each doctor; Colorado, only 462; and Vermont, 477. In the case of California and Colorado, their reputation as health resorts evidently accounts for their surplus of physicians. Besides their normal number they have those from all parts of the country whose health requires their residence in an equable climate.

Among others of the States there are a number of surprises in the mode of distribution of physicians. Kansas, for instance, has one doctor for every 510 of population. Indiana comes next with one to every 519 inhabitants. Then Ohio with one to 529; Missouri, with one to 543; Iowa, with one to 562, Arkansas, one to 569; Massachusetts and Michigan, one to 575, Illinois, one to 583, and New York one to 596.

Prof. Thwing of Western Reserve University said not long ago that there was only one profession at present open to young men in which they could expect to make their living from the very beginning of their professional career. This is dentistry. According to the census figures, there is only one dentist to every 10,000 of population. Like the physicians they are thickest at the Capitol. There is in Washington, D. C., one dentist for every 1,250 inhabitants. Health reasons disturb the normal equilibrium of dentist distribution, as it does that of the physicians, and so California has one dentist to every 1,500 inhabitants. Massachusetts comes next in its support of the dental fraternity, about every 2,000 inhabitants providing a living for a dentist. New Hampshire, Vermont, Oregon, Illinois, Connecticut, Ohio and New York follow closely on Massachusetts in this respect.

For physicians it is evident that we have nearly reached the limit of professional numbers as far as medicine can be practised with due hope of economic success. It is evident, too, that the ranks of the dentist are rapidly filling up and that even now there are many places, especially in the more thickly-populated districts, where a dentist cannot expect to make a living for several years after he hangs out his sign.

ECHOES AND NEWS.

NEW YORK.

No More Consumptives for St. Luke's.—Current talk around St. Luke's Hospital is that the department for the treatment of consumptives at that institution, comprising fory-two beds for men and women patients, is about to be abandoned. The reason given in the gossip is that the hospital has no special advantages for treating this disease, and that the wards are so close to those for the general run of patients that there is grave danger of infection. No definite action can be taken until the next meeting of the Board of Trustees on the last Monday in September, and that if the subject is not taken up then it may be considered at the annual meeting of the board in October on St. Luke's Day.

Private Smallpox Hospital.—It has been rumored of late that a private hospital for smallpox patients is contemplated, although the project has not met with much approval either from official quarters or among physicians generally. Commenting on the proposition Dr. Cosby stated that if such a hospital were built by private parties it would have to be conducted under the supervision of the Health Department. He estimated that it would cost not less than $75,000 to put up the building, while the annual expenses would be about $25,000, which he said would hardly pay, as the disease fluctuates in regular periods, being most prevalent every five years.

Campaign Against Mosquitoes.—Should the kerosene campaign which Dr. A. H. Doty, Health Officer of the Port of New York, has inaugurated against the mosquitoes of Staten Island prove satisfactory, a general crusade against all the mosquito grounds in Greater New York may be started under the direction of the New York Board of Health. Commissioner Sexton has the question now under consideration.

Annihilating the Staten Island Mosquito.—Dr. Doty, Health Officer of the Port, has commenced war against the mosquito in this locality. Work on the district he has laid out for treatment, extending from the Narrows to New Dorp Lane, on the island, was somewhat delayed, as the apparatus for distributing oil was not ready. President Sexton of the Department of Health has assured Dr. Doty of his support, and has detailed men to help him in the work. All the swamps and marshy places in the district mapped out are to be inspected, and the breeding-places of the mosquitoes determined and treated with oil.

Prospect Park Lakes as a Mosquito Breeding-Ground.—The attention of the authorities has recently been called to the presence of a dark green scum which forms on the surface of the lakes in Prospect Park, Brooklyn. It is claimed that this scum forms an excellent breeding-ground for mosquitoes and thereby favors the dissemination of malaria. No action in the matter has yet been taken.

PHILADELPHIA.

A Record at Pennsylvania Hospital.—During the month ending July 28th the Pennsylvania Hospital treated more cases than during any similar period in its history. In the emergency wards 3,257 cases were attended to besides 1,798 cases in the dispensary. For the week ending July 6th the cases numbered 998, the largest day's record being 155.

Epidemic of Anthrax.—Cattle on the mountain near Tyrone are dying from anthrax. More than 20 animals have died and many more have the disease.

Test Oleomargerine Cases.—The Dairy and Food Department of the Department of Agriculture in Pennsylvania is to make test cases of a number of manufacturers of "oleo." The makers claim the right to give their product a trace of color and thus avoid the "full yellow" specified by law. The cases are to be tried in Pittsburg and carried to the Supreme Court in order to settle finally disputed points.

An Unusual Departure in Newspaper Ethics.—Under its new management the Philadelphia *Times* has taken a stand which it is sincerely hoped will be imitated by its contemporaries. The following resolutions passed recently by the Medico-Legal Society of this city are self-explanatory: "*Whereas*, the advertising of abortionists and their drugs, as well as other disreputable secret medicines, has for years been a notorious disgrace to the newspaperdom of this city, an evil seemingly without redress, and, *Whereas*, the Philadelphia *Times* under its new ownership has declared for a high ethical plane, avoiding all sensationalism, while at the same time furnishing 'all the naws that is fit to print,' excluding all medical and other questionable advertisements so as to make it indeed a newspaper fit for the family circle, therefore be it *Resolved* that the Medico-Legal Society of Philadelphia highly approves of the advanced stand taken by the *Times* and urges upon the medical profession generally its active support in aiding to carry out that journal's elevated ideals."

CHICAGO.

Suppressed Report of Self-Purification of Streams.—Several members of the Sanitary District Board are said to have suppressed reports setting forth the most elaborate scientific proof ever accumulated showing the self-purification of running streams. After having appropriated $2,500 of public funds for the preparation of the report and after having authorized its publication, they are said to have taken steps to keep the subject-matter of the report from being made public. The circumstance was brought to the surface when

President Alexander J. Jones was asked to permit access to the report made by several expert chemists who spent months making an examination of the waters of the drainage canal and the Illinois River. The experts are Prof. E. O. Jordan of the University of Chicago, Profs. Palmer and Burrill of the University of Illinois, and Prof. Adolph Gehrmann of the city laboratory. Political jealousy, lest the publication should reflect too much credit upon city officials, is alleged to have been the chief motive which actuated the suppression. The suggestion as to this motive comes from officials of the City Health Department. President Jones declares the report was suppressed so the material in it could be used by the Sanitary District in its defense against the attempts of the city of St. Louis to have the drainage canal closed by the courts. Should the report become public, says President Jones, its value as a defense would be injured. The report suppressed is said to show that the waters of the drainage canal are not polluting the waters of the Illinois River and that the alarm of St. Louis is unfounded. Before the waters of the river reach Peoria they are said to be absolutely pure. At that point they are contaminated by the Peoria distilleries. The river again becomes perfectly pure many miles north of the junction with the Mississippi River. Trustees of the Sanitary District are greatly elated over the action of the War Department in issuing orders to allow a swift flow of water through the canal during eight hours of the day. The hours specified are between 4 p.m., and midnight and the flow allowed is 300,000 cubic feet a minute, instead of 200,000 cubic feet, as is allowed during the remainder of the day.

Rush Will Admit Women.—Women hereafter will be admitted to the freshmen and sophomore classes of Rush Medical College. Trustees of the University of Chicago and of the college decided at their last meeting to make them eligible and to admit them to the higher classes also, when additions to the college buildings make that possible. The demand for medical instruction from women who wish to become trained nurses is one of the reasons for the change. Another change announced is the rejection in the medical college of the system of quarters upon which the university is founded.

Sell Ice Without License.—Police have been ordered to arrest ice peddlers who have not obtained a license. Secretary Pritchard of the Health Department has discovered that in the crowded district there is a nomadic lot of delivery wagons which peddle ice without securing the necessary permission. As the health authorities have no means to make tests of their product as to its purity, the sale of ice in this way is held to be extremely dangerous. In many cases the ice is totally unfit for use.

Asylum Is Crowded.—Members of the County Board have been appealed to by President Hanberg to provide additional accommodations for the inmates of the Dunning Asylum. He reported the institution as badly overcrowded and informed the Board that an addition, equipped for the housing of 200 of the feeble-minded wards of the county at an early date, is imperative. The communication shows that there are more than 1,600 inmates of the asylum. The wards are crowded so that many of the unfortunates must sleep on the floors, and, while nothing can be done toward providing funds for an addition before the first of the year, President Hanberg desires that the improvement be taken up in committee and plans made which may be carried out without delay as soon as an appropriation can be voted after the first of the year. It is estimated that the proposed addition will cost not less than $40,000. It has long been needed and President Hanberg says cannot be longer delayed if the county is to continue to care properly for the unfortunates dependent upon it.

Addition to Cook County Hospital.—An addition to the County Hospital is also under consideration and must be passed upon by the County Board before the first of the year. There is urgent demand for two more wards. At present there is no adequate provision for the care of patients suffering from skin diseases. Within the year $25,000 will have to be set aside for this purpose if the standard of the public service demanded of the hospital is maintained.

Milk to Be Confiscated.—Confiscation of shipments of milk is to be resorted to by the Health Department when it is found that the milk has been adulterated. It has been learned that the dealers in Chicago are not to blame in every case in which impure milk is found, but that there are shippers who put in formalin to preserve it. In some cases the dealer is ignorant of this and in others it is put in with his full knowledge. What the health officials have determined to do is to inspect the milk at the depot platforms and when the milk is found to be adulterated it will be emptied out on the track. In pursuing this course the Health Department has the hearty support of the Milk Shippers' Union. Secretary Farmer of that association said that he had investigated some cases where it was found that shippers used formalin. One shipper, he said, sold cream and milk either with or without formalin as ordered. Others put it in and the dealer who was fined was ignorant of the fact. In most cases, he says, these shippers are what are known as "scalpers." They are in the habit of buying up milk for creameries and when there is a scarcity in Chicago and the market is better than at the creameries they ship it here.

Typhoid in Lake Baths.—Typhoid fever is on the increase in Chicago, and the health offi-

cials are inclined to trace it directly to the bathing beaches which have been opened lately and to the recent rains. Chief Medical Inspector Herman Spalding of the Health Department of the city issued a warning to parents that, unless greater care was used by those children who visit the bathing beaches, the city would be in the throes of a typhoid-fever epidemic. There has been a marked increase in the number of cases of typhoid fever during the last days.

Increase in River Wards.—Dr. Spalding says that this indicates a remarkable increase, and the greater number of these cases are in the river wards, such as the Ninth, Tenth, Eleventh, Eighteenth and Nineteenth. He says that the wards where the children who patronize the bathing beaches on the south shore live are also showing a large increase in fever patients. "It is due to the bathing to a large extent," said Dr. Spalding. "I do not want to argue against bathing, because that is a very necessary thing for the health of the community; but the trouble is that boys and girls, and even men, who ought to know better, go into the lake and swallow the water while swimming. This water is polluted. Our experiments show that a rainfall of less than a quarter of an inch is sufficient to pollute the water of the lake along the shore, and every day you will see men on the pier dip up water from the lake and drink it. This is poisonous and results in typhoid fever in many cases. Even if those who bathe in the lake are careful not to take any of the water into their mouths while in the lake, they will wipe their lips with wet hands, which is equally as bad as taking the water into their mouths."

Tuberculosis.—Following the discussions at the recent Congress of Tuberculosis in London on the cure and possible eradication of the disease, the *London Sphere* has compiled a record of deaths in the world's largest cities which shows that Chicago has the lowest mortality rate from the diseae and Buda-pesth the highest.

GENERAL.

New Jersey Insane Asylum Investigation.—The investigation into the charges recently brought against the management of the State Asylum for the Insane is taking place in the presence of Gov. Voorhees, who nad been requested to attend. Dr. Baldwin, B. W. Andrews, and Judge Joseph Thompson, the three members of the hospital Board of Management, comprise the investigating committee. When the proceedings opened they announced that no allegations beyond those contained in the recent complaint of hospital attendants concerning the alleged inedible and insufficient food supplied to them would be considered by the committee. Other allegations, involving indiscretions, neglect, and mismanagement of both the patients and the business end of the institution are thus barred from the examination at this time.

New Hospital for Crippled Children.—A. C. Burrage of Boston has leased Bumkin's Island from Harvard University for 399 years, and will build a hospital on it, and make it a free summer home for the crippled children of Boston. The island is near Hull. It was given to Harvard College by Samuel Ward, who was a friend of John Harvard. The terms of Ward's will were such that the land could not be sold outright.

Transfer in Marine Hospital Service.—Surgeon Kinyoun, recently of San Francisco and now in charge of the Marine Hospital at Detroit, has been detailed to visit Japan and China to inspect the work of the Marine Hospital Service with special reference to the plague. Dr. Kinyoun was one of the Marine Hospital experts who was abused by San Franciscans for saying there were plague cases in "Chinatown."

University of California Appointment.—Dr. Archibald R. Ward of Ithaca, N. Y., has been appointed veterinarian of the Agricultural College of the University of California, a new position created by the Board of Regents. His work will be closely associated with that of Leroy Anderson, head of the Dairy School, buildings for which are now in course of construction.

Retirement of Surgeon-General of Navy.—The term of Surgeon-General W. K. Van Reypen, Chief of the Bureau of Medicine and Surgery in the Navy Department, will expire December 18th. Dr. Van Reypen will be retired from service in November, 1902, under the law. His services during and since the Spanish war undoubtedly will secure for him a reappointment to the head of the bureau, and that reappointment will assure to him retirement with the rank and pay of a Rear Admiral. What the officers of the Medical Corps are interested in is what will become of the office after Dr. Van Reypen has been put on the retired list. After his retirement there will be available several medical directors, whose terms are approaching completion, and it is thought the President may choose one of these, and thus give to the fortunate man the chance to retire with the highest rank. But it is also suggested that the President may overlook the medical directors and select a Medical Inspector for the place.

Sir William MacCormac on Wounds and Warfare.—The President of the Royal College of Surgeons, Sir William MacCormac, read a paper before the British Medical Association, recently in session at Cheltenham. He pointed out that the character of gunshot wounds had completely changed since his experiences in the Franco-Prussian war (when he was Surgeon-in-Chief to the Anglo-American ambulance). Not only was the severity of the

wounds diminished, but they were also less frequent; so the improvement made in weapons did not render the prosecution of war more difficult, as contended in some quarters. Only 6 per cent. of the wounded died.

Antisepsis on the Field of Honor.—This seems a year of odd duels in France, as it is also a year of other odd things there. The strangest encounter of all on the field of honor was that of Ernest Daudet, for whose moral guidance his father wrote "Sapho," and a journalist named Gérault Richard. It is stated that after the first attack, the point of Daudet's sword accidentally touched the ground, when the seconds intervened and stopped the contest until the blade could be disinfected. Afterward Daudet was wounded in the wrist, but, thanks to the antiseptic precautions taken by the seconds in this duel, which doubtless establishes a precedent, he is doing well, and will soon be able to use his sword arm again in defense of his honor.

Sir James Paget's Memoirs and Letters.—It seems that Sir James Paget, F.R.S., who died a few months ago and was honored with a memorial service in Westminster Abbey, left the manuscript of a work of "Memoirs and Letters" now in active preparation for publication under the editorship of one of the distinguished surgeon's sons, Stephen Paget. Although the Paget family is connected with several American families by marriage, undoubtedly the chief interest in the forthcoming publication will lie in the fact that the late Sir James included in his circle of patients and intimate friends some of the most conspicuous personages in the United Kingdom. The King and Queen were among his patients, as was Queen Victoria before them. His student days were passed at St. Bartholomew's Hospital, and he began to practise in 1857. We are looking forward with much eagerness to the publication of these letters which are sure to reflect the brilliant personality of a distinguished medical man.

No Secret Medicines Sold in Austria.—Carl Bailey Hurst, United States Consul General at Vienna, Austria, in a recent report to the State Department says, among other things:

"In consequence of many inquiries addressed to this Consulate General in the matter of the Government regulations in Austria regarding the importation and sale of patented medicinal and chemical preparations, I would report that the sale of 'arcana,' or secret remedies, has always been strictly forbidden in this monarchy. Trade in such medicines and advertisements of the same are under strict surveillance of the law. Further, those medicinal preparations of which the prescriptions are not open to inspection by physicians, or in the prescription of which the substance of the medicinal ingredients cannot be definitely recognized as to kind and quantity, may not be kept for sale in apothecaries. Only those manufactures may be considered as pharmaceutical specialties that contain drugs acknowledged to be medicinal remedies, as, for instance, balsam copaiba, oleum santali, and the like.

"Every new medicinal preparation intended for use by the public must be reported to the authorities, and its sale may not be begun until said authorities have found no reason to prohibit the same. Prescriptions of foreign medicines must be accompanied by precise directions for their preparation from the foreign manufacturer, and be provided with his signature and business stamp. Altogether excluded are cosmetics that by their labels, wrappers, and advertisements are affirmed to be efficacious in the removal of personal blemishes—impure skin, freckles, liver spots, and baldness—and are, therefore, qualified as remedies.

"The regulations in Austria in regard to the advertisement of patent medicines are likewise strict. All laudatory notices in local publications of cures and remedies coming from abroad constitute a transgression of the trade laws, and, under certain circumstances, foundation for complaint of unlicensed medical practice."

Consul Hossfeld of Trieste transmits, under date of July 12th, a report covering the same information. He adds:

"The Austrian law also undertakes to regulate the prices to be charged for patent medicines, for it provides that whenever the reasonableness of the price of such a remedy is questioned, it shall be rated on the basis of the official tariff promulgated in the Pharmacopœia Austriaca.

"Those of our manufacturing chemists who are disposed to take the Austrian public or sanitary authorities into their confidence will probably not find it very difficult to obtain the necesary permission for the sale of their products, but I doubt whether any business which they may do in this country will ever prove a source of great profit to them."

American Association of Obstetricians and Gynecologists.—This Association will hold its fourteenth annual meeting at the Hotel Hollenden, Cleveland, O., Tuesday, Wednesday and Thursday, September 17, 18 and 19, 1901, under the presidency of Dr. William E. D. Davis, of Birmingham, Ala. The committee of arrangements is composed of Dr. M. Rosenwasser, 722 Woodland Avenue and Dr. William H. Humiston, 122 Euclid Avenue, Cleveland, either of whom may be addressed concerning rooms or other local information regarding the meeting.

The following list of papers is offered:

The President's Address, William E. B. Davis, Birmingham; Indications for the Combined Vagino-Abdominal Operation of Hysterectomy, Rufus B. Hall, Cincinnati; A.

Method for Suspension of the Uterus, Robert T. Morris, New York; Tuberculous Peritonitis, Experimental and Clinical, John B. Murphy, Chicago; Report of a Case of Acute Pancreatitis and Fat Necrosis, Edward J. Ill, Newark; Pelvic and Abdominal Tumors Complicating Pregnancy, with Report of Cases, Rufus B. Hall, Cincinnati; Pathology and Treatment of Hourglass Stomach, with Report of Two Cases, Charles G. Cumston, Boston; Early Operations in Appendicitis and Method, Joseph Price, Philadelphia; The Undeveloped Uterus, C. L. Bonifield, Cincinnati; An Interesting Case of Tubo-Abdominal Pregnancy, Wm. H. Humiston, Cleveland; Report of a Case of Ruptured Tubal Pregnancy, Webb J. Kelly, Galion, O.; Diseases and Injuries of the Cervix Uteri and Their Treatment, Joel W. Hyde, Brooklyn; Extra-uterine Pregnancy; Report of Cases with Specimens, George S. Peck, Youngstown; Is Cæsarean Section Justifiable in Placenta Previa? E. Gustav Zinke, Cincinnati; Some Reflections on Ectopic Gestation, David Tod Gilliam, Columbus; Some Forms of Disease Involving the Uterine Appendages, Augustus P. Clarke, Cambridge; The Mechanical, or Combined Plastic and Mechanical Treatment of Retrodeviations of the Womb, M. Rosenwasser, Cleveland; A New Method of Opening the Abdomen in Gynecological Surgery, Charles G. Cumston, Boston; A Second Contribution to the Surgery of Gastric Ulcer, Henry Howitt, Guelph, Ont.; Indications, Technic, and Remote Results of Salpingostomy and of Resection and Ignipuncture of the Ovaries, with Tables of 104 Cases.

Obituary.—Dr. Henry Armgardt of 370 Leonard Street, Brooklyn, died in Harzburg, Germany, on July 31, 1901. He was fifty-two years of age. He began the practice of medicine in Chicago and later moved to New York city and finally to Brooklyn, where he practised continuously until he sailed for Europe on June 15th last. He was a Professor in the Eclectic Medical College of New York city. He was also a Freemason and a member of the Royal Arcanum.

Dr. Stephen Foss died at his residence, 15 Cornelia Street, Brooklyn, on August 1, 1901, aged 76 years. Dr. Foss was born in Portland, Me., and graduated from the Medical Department of Harvard University. He successfully practised in Brooklyn for many years, but about five years ago retired on account of blindness. He was a veteran of the War of the Rebellion and formerly a member of Warren Post, G. A. R.

Dr. Frank B. Bingham of Buffalo was killed shortly after noon August 2d, by a trolley car at Main and Summer Streets. Dr. Bingham was riding his wheel at the time.

Dr. James V. Kendall, one of the oldest surgeons of Central New York, died this week at his home in Baldwinsville, Onondaga County, N. Y. He was eighty-three years old, and had been surgeon of the 149th New York Volunteers. He was a member of the Assembly in 1869 and active in Republican politics.

Dr. Henry Buckingham Horlebeck, a former President of the American Public Health Association, and for twenty years the Health Officer of Charleston, N. C., died in that city early Friday morning. He was stricken with paralysis several months ago. Dr. Horlebeck was an authority on yellow fever. In his will he left instructions to have his body cremated and the ashes buried there. The body was shipped to a Staten Island crematory.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, July 27, 1901.

THE TUBERCULOSIS CONGRESS—A QUARREL AMONG THE GERMANS—A SCRAMBLE FOR PRESENTATION TO THE KING—KOCH AND HIS MEDAL—HIS SENSATIONAL UTTERANCE ON TUBERCULOUS MILK AND MEAT—VIRCHOW'S CRITICISM—RESOLUTIONS PASSED BY THE CONGRESS—ENTERTAINMENTS—AN EXPECTED SHOWER OF HONORS.

As I write the last echoes of the Tuberculosis Congress are dying away. The general impression is that the meeting has been a brilliant success. The attendance has been close on 2,000; almost every civilized government has been represented, and quite a crowd of more or less distinguished foreigners has added liveliness to the normal dulness of a British meeting. With one exception there has been no communication of an epoch-making character, but much solid work has been done in the various sections. The general press has given a considerable amount of space to reports of the proceedings, and has discussed the facts and proposals brought forward with a sense of their importance which is as novel as it is gratifying in English journals where medical matters are mostly totally neglected or treated as esoteric mysteries that concern only the doctors.

There was a hitch at the outset which, if it had not been set right, might have gone some way to imperil the success of the Congress. In Germany, and indeed on the Continent generally professional jealousies, if they do not run higher than among us, at least find more outspoken expression. In most German universities, as every one knows, there exists a system of dual professorship in the different branches of medical science which is admirably adapted to create jealousy and anger in the most celestial souls. Hence it is a general rule, to which there is hardly an exception, that the two professors, say of surgery, hate and despise each other and refer to each other in their lectures in the most contemptuous terms, to the delight and edification of the students. At Berlin Professors Gerhardt and von Leyden are the great Panjan-

drums of medicine, but like Society "lions" each when he hears his rival roaring thinks him a bore. The German leaders are in the habit of going to Congresses like the Highland Chiefs of old, "with their tails on," that is to say, with a bodyguard of devoted adherents who form a *claque* for them wherever they go. The Gerhardt and Leyden parties fell out on the first day of the Congress over some trumpery question as to the choice of a speaker on some ceremonial occasion. Like the Irish Members of the House of Commons at the time of the Parnell split, the discordant Teutons got a room for themselves in which to fight out their quarrel. When this matter was arranged, another row disturbed the philosophic calm of the Germanic mind. This time it was because some one who thought he should have had a place in the second row was relegated in the third. Such harmony is in immortal souls!

Another incident delightfully illustrative of the large-mindedness of the paragon of animals, man, occurred toward the end of the Congress. The King had been approached by some one who has the Royal ear with a suggestion that he should receive a certain number of the more prominent among the foreign members. His Majesty whose days are passed at present in decorating the British Army, intimated that this addition to his labors would bore him exceedingly. The proposal was therefore abandoned—rather to the relief of those on whom the delicate duty of selecting the persons to enjoy the beatific vision of Royalty would have devolved. But princes are proverbially fickle, and Edward the Seventh seems to have taken counsel with himself, and, probably feeling that as patron of the Congress it behooved him to do something to show an appearance of interest in it, determined to be on view to some of its members. The result was that late one afternoon he sent Sir William Broadbent, his physician in ordinary, a message that he would receive a batch of distinguished foreigners on the next day. When the news got abroad, Sir William Broadbent's door was besieged by a horde of excited representatives of various nationalities, each urging his claims to be presented. Not only physicians but Ambassadors crowded Sir William Broadbent's house, representing that if this or that official person were not included in the list there would be all sorts of international complications. How the conflicting claims were finally adjusted I do not know, but I have no doubt that Sir William Broadbent, who is a harmless sort of person, has innocently made a number of deadly enemies. One (officially) distinguished German, was, it appears, nowhere to be found. Every hotel in London was ransacked to find him, as it was impressed on those responsible for the selection of the elect to whom Royalty was to manifest itself that the most fearful consequences would follow if this particular official were not presented. He was found at last in some obscure lodging, sulking like Achilles in his tent, because as he fancied he had not been asked. It was with some difficulty that he was appeased and induced to honor the king of England by allowing himself to be presented to him.

Koch was not among those presented, but that appears to have been his own fault. He chose to go to a meeting of the British Institute of Public Health, to receive a medal which he thought he was to get from the hands of Lister. He was in blissful ignorance of the true status of the Institute in question which rightly or wrongly is not regarded with any particular favor by the medical profession. The distinction bestowed on Koch is not therefore looked upon here as of any great value. Koch appears to have discovered this for himself, for he went to Eastbourne where the meeting of the Institute of Public Health was being held by an afternoon train and returned to London by the next, having shed the luster of his countenance on the meeting for about a couple of hours.

The great sensation of the Congress has been Koch's denial of the infective power of bovine tuberculosis in man which has made all our butchers and farmers rejoice exceedingly. Its effect on the Congress can only be compared to that of a dynamite explosion. The airy way in which Koch asked the medical world to receive a new doctrine erected on the flimsiest basis of fact is a remarkable illustration of the degeneration which has overtaken one of the greatest scientific investigators of our time. It is too clear that success has turned his head, and that he cares more for "staggering" than for instructing humanity. His startling declaration that precautions against the use of tuberculous milk and meat are useless was delivered with the calm assurance of an infallible pope promulgating a dogma which the faithful are to receive on pain of damnation. His views were severely criticized by Lord Lister who was in the chair. Lister is the most courteous of men, and it is unusual for a chairman to criticize the utterances of a speaker whose sponsor he is for the occasion. But Lister criticized Koch very sharply, and he was greatly annoyed that he was represented in the newspapers as accepting his doctrine. Professor Nocard, the great veterinary authority who spoke afterward, contrived with the art of a consumate actor to overwhelm Koch with compliments, while conveying plainly to such of the audience as understood him that he considered the sensational statements of the inventor of the famous *Mittel* (which by the way he was induced to reveal is made from bacilli of human origin) not mistakes but deliberate lies!

Koch's views find little or no acceptance among English men of science, and they are almost universally rejected by his own countrymen. It is even insinuated that he and Professor Bernhard Fränkel are simply put forward as the exponents of the German Government and Agrarian party for some purposes of their own. Professor Virchow is reported to have said in an interview published by the Berlin *Lokal Anzeiger:* "I have combated for years the view of the hereditary transmission of tuberculosis, but for the rest I do not agree with Dr. Koch, and at the last meeting of

the Medical Society I spoke most strongly against Dr. Koch's deductions. Dr. Koch is not Rome and the last word has not been spoken." Of course this deliverance must be taken subject to discount as being that of a rival oracle. Virchow has ever since the days of the tuberculin boom lost no opportunity of expressing his disagreement with Koch's work.

Among the resolutions passed at the closing meeting of the Congress yesterday was one which had direct reference to Koch's new teaching. It was to the following effect: "That, in the opinion of this Congress, medical officers of health must use all the powers at their disposal and relax no effort to prevent the spread of tuberculosis by milk or meat." On the suggestion of Dr. Herron (whose guest, it may be mentioned in passing, Koch is), strongly supported by Dr. Farquharson, M.P., an addition was made to the resolution asking for an immediate official experimental inquiry into the identity of bovine and human tuberculosis. A summary of the other resolutions must suffice. Mr. Malcolm Morris, General Secretary of the Congress, moved that "Tuberculosis sputum is the main agent in the conveyance of the virus of tuberculosis from man to man, and indiscriminate spitting ought therefore to be suppressed." Mr. Harold Swithinbank endorsed these views, and called upon municipality in this country to follow the rational policy adopted in New York, the chief Canadian cities, Sydney, and other places, by making the practice a penal offense. To this succeeded a motion by Professor Sims Woodhead of Cambridge and Sir William Broadbent, "That, in the opinion of this Congress, all public hospitals and dispensaries should present every patient with a leaflet on the prevention of consumption and should supply and insist upon the use of a pocket spittoon." A third motion ran "That voluntary notification of cases of phthisis, when accompanied by expectoration, has been attended with success and should be encouraged wherever the means exist to take the necessary consequent measures." Dr. Niven of Manchester showed that excellent results have followed in Brighton, Manchester and Sheffield, where such notifications exist. Cases were discovered early, and disease arrested. Professor Clifford Allbutt strongly approved of beginning the required reform in this way—voluntarily. On the proposal of Sir James Burdon-Sanderson, Bart., Regius Professor of Medicine at Oxford, and Sir R. Douglas Powell, it was agreed "That the provision of sanatoria is indispensable among the measures necessary for the diminution of tuberculosis," especial reference being made to industrial centers. Another resolution proposed the establishment of a permanent international committee to keep the public everywhere informed of the progress made and the measures adopted to combat tuberculous disease; while Professor Crookshank and Dr. Theodore Williams affirmed that the overcrowded, dark, ill-ventilated dwellings and insanitary conditions of the working classes favored the spread of contagion. Professor Brouardel and Professor Calmette obtained a vote in favor of antituberculous dispensaries, to which the working classes could repair for assistance at the very beginning of the disease. Finally, the Congress, at the instance of Professor Robin and Sir Wlliam Broadbent, suggested that for the next meeting of this kind inquiry should be made into the predisposition of individuals to forms of tuberculous disease. These resolutions all of which here passed unanimously may be taken as embodying in themselves the substance of the work of the Congress.

The entertainments in connection with the Congress have been as successful as the scientific proceedings except during the last two days when a tremendous thunderstorm followed by cataracts of rain turned the town into a flooded sewer and the country into a swamp. This necessarily ruined many of the out-door functions—garden parties, excursions, etc.. The greatest entertainment of all, however, is yet to come. This is a grand pyrotechnic display which will take the form of a shower of honors and decorations. Every one who has had anything to do with organizing the Congress expects to be made a Knight at least. In such circumstances it is most prudent to treat oneself on the non-expectant method embodied in the ninth Beatitude: "Blessed are they which expect not, for they shall not be disappointed."

SOCIETY PROCEEDINGS.

BRITISH MEDICAL ASSOCIATION.

Sixty-Ninth Annual Meeting, Held at Cheltenham, July 30, 1901.

FIRST DAY—JULY 30, 1901.

President's Address.—Dr. George Bagot Ferguson read an address on "Scientific Research as the Indispensable Basis of All Medical and Material Progress." He first welcomed the visitors to Cheltenham and spoke of its location, its reputation as a health resort, gained by reason of the saline springs that abound in the neighborhood, and also referred to the medical men of the district who had become more or less famous. He then took up the subject in hand.

The Foundations of Medicine.—"*Homo sum, humani nihil a me alienum puto,*" and this sentence of Terence may well be taken as descriptive of the modern practitioner of medicine. Is there nothing revolting in medical and surgical training and practice, in the year of dissection so wisely exacted from every medical student, in the indispensable work of the deadhouse, in the examination of patients, and in many operations of surgery and obstetrics? There is much, no doubt, repulsive at first in our professional education, but the cheering thought of doing service to common humanity

removes the feeling of abhorrence that would otherwise overcome us. As we for others, so others willingly for us; for sooner or later the medical man himself must seek the help of his fellows. Age, infirmity, mortal illness must come to him too in his turn, and so during his days of activity he must shrink from nothing which is repulsive and hesitate at nothing which is disagreeable, if only he may know more fully and act more precisely. *"Homo sum, humani nihil a me alienum puto,"* is the most inspiriting and the most comforting of mottoes.

Man's body is our chief care and study, its anatomy, its physiology, its diseases and injuries. Of anatomy we may say that it is the indispensable basis of medicine and surgery, and it can be honestly stated that there never was a conspicuously successful practitioner who was not a good anatomist. To the younger members of the profession it should be said, Never lose your grasp of anatomy, dissect whenever you have the opportunity, and as regards your anatomical manuals *"Nocturnâ versate manu, versate diurnâ."* Physiology teaches us that which is in accordance with Nature, and if we would recognize that which is abnormal or diseased, that which is pathological or contrary to Nature, it follows that we must ever keep before our eyes the physiological standard, the normal processes, reactions, and chemistry of the human body. Then of diseases themselves or variations from the normal we may recognize that many are essentially derangements of function, such as catarrh, anemia, diabetes, gout; whilst others are due to true anatomical changes, such as chronic Bright's disease, atheroma, hemiplegia, valvular disease of the heart, and cirrhosis of the liver. Others, again, like anthrax, phthisis, glanders, typhoid, tetanus, and diphtheria are due to parasitic invasion. Indeed a division of diseases may be made into anatomical, physiological, and parasitic; the last including tumors, of which the malignant or infective are especially parasitic. Degenerating from their high pkosition in the scale of being, some of our connective tissue or endothelial or epithelial cells, as the result of malnutrition (as Sangalli asserts), or of irritation, or under the influence at first of some specific organism (some blastomycete) as Thoma, Scheurlen, Korotneff, Russell, Sanfelice, and Roncali have asserted, comport themselves somewhat as the yeast fungus, itself a blastomycete, in a suitable medium would do, growing ever and working never (as Adami suggests), and soon, unless the surgeon interposes quickly and boldly and removes root and branch the malefic colony, the whole body becomes contaminated by the animal fungoid, which soon destroys its life. However numerous the departments of medical science may be—and we have thirteen represented at this meeting—anatomy, physiology, and pathology, being the true foundations of medicine, should always occupy a very large share of our attention.

One Hundred Years Ago.—Dr. Ferguson then dwelt upon some of the medical workers of the past two centuries, sketching in brief the salient truths brought out by these masters of medicine.

Scientific Research and the Present Medical Standpoint.—He said that in looking over the important facts in medicine that stand out through the century one is struck by the fact that the so-called practical man is never heard of, but that the biological dreamer is the man who has made most of the lasting discoveries. It is true that the practical man is indispensable, but he is not like the great biologist. The cell theory, for example, lies at the very foundation of modern medicine, and this theory certainly originated entirely with the biologists. The cell nucleus was actually seen and drawn by F. Bauer as long ago as 1802, though it was not before 1831 that it received that name from Robert Brown, the botanist. Little notice, however, was taken of the subject before the publication of Schleiden's paper on Phytogenesis in *Müller's Archives* for 1838, in which he asserted that "every plant is an aggregate of individualized, independent, separate beings—namely, cells." Theodor Schwann, also in the next year, made a similar assertion regarding animals in his *Microscopical Researches,* of which, and of Schleiden's paper also, the Sydenham Society published a translation in 1847.

Next came Hugo von Mohl in 1846, who recognized what we now call protoplasm in the cells of plants; the identity of which with a similar substance in the cells of animals was soon afterwards proved by Cohn and Remak. To Schwann a cell without a wall and a nucleus was no true cell, but Leydig in 1856 adduced pus and mucus corpuscles as instances of wall-less cells, and so step by step the ground was cleared for the now historical cellular pathology of Virchow, which influenced so profoundly the medical thought and practice of forty-three years ago. To Virchow as to Schwann a cell wall was a necessity, though this idea was soon afterwards dispelled by Lionel Beale and independently by Max Schultze in 1861. To Max Schultze we owe not only the extension of the term protoplasm (the bioplasm or living matter of Beale) to the contents of animal cells also, but the best description of an animal cell, namely, that it is a protoplasmic mass containing a nucleus; though even this last, we may add, is non-essential. All this work on the cell theory gave the original inspiration to Pasteur, and Pasteur leads up to Lister, of whom it is not necessary to speak, for he needs no speech, though he might well say of himself, *Quæ regio in terris nostri non plena laboris?*

Bacteriology, roentgen ray work, the study of antitoxins, animal extracts, ophthalmology, the advances in scientific chemistry and in the

study of parasitic diseases, in turn were discussed and their futures suggested.

More Universities and Research Institutions Needed.—The progress of pure science means medical progress also, and that it is to the men of pure science that we must still look to hold aloft for us the torch of progress. It is to be hoped that in the great advances still to be made Great Britain and Ireland may play their worthy part; but this will not be unless some improvements are made in their educational arrangements. As the result of several recent Augusts spent in many of the Continental capitals, he had been struck with the thoroughness and scientific spirit everywhere there manifested; being very different from the antiscientific spirit which characterizes most of the wealthier and more cultivated classes in this country. This antiscientific spirit is only eradicable by the better education of the young. To what other cause can we ascribe the fact that although the aniline dyes were discovered in 1858 by an Englishman, Dr. W. H. Perkin, yet almost the whole of their manufacture is now carried on in Germany? The National Physical Laboratory and the Jenner Institute of Preventive Medicine, have been established, the former in principle, the latter in reality, thanks to the splendid munificence of Lord Iveagh. New colleges, universities, and technical schools have been started, and some 15 to 17 research scholars are appointed every year, one-half of whom proceed at once to Germany to make their researches! What has been done, however, is as nothing to what ought to be done. The defences of the empire must not be overlooked, but of what avail will be those defences, if trade is gradually lost, for want of exacter knowledge? For trade and medical progress, and those very defences themselves, rest entirely upon progressive science.

But the cost? It would be as nothing in proportion to the gain, and a Faraday, a Koch, or a Pasteur would be a cheap purchase at a million. Whereas France, Germany, and the United States educate at their universities approximately one student in every 1,500 of the population, we in the United Kingdom are content with less than 1 in 2,000. Whereas Germany spends £753,000 a year on its twenty-two universities and France £740,000 a year on its sixteen, Great Britain and Ireland are content with less than one-fifth of that amount, namely, £135,339 among seven of their thirteen. Although the Leland Stanford, Jr., University of California has received no less than nine millions sterling from private munificence, and many others of the 480 American universities and colleges have likewise received huge sums—the Chicago University £2,000,000, the Johns Hopkins University £1,400,000 and the Cornell University over £1,000,000—no such general largesse is to be expected from British millionaires. The help must come from Government, supplemented by local contributions, or it may not come at all. Yet the matter is one of life or death for the country, for more and more every year the victory in every department, and the predominance in arts and trades, will pass to the possessors of the latest knowledge, the deepest science, and the most perfect and most economical processes. It cannot but be believed that this great need will soon be remedied, and that at the cost of a few battleships real universities of teaching and research, like the new University of Birmingham, will be established in every large town, and technical and research institutions—there are twenty-five of these in Germany and forty-three in America—in most of the smaller ones. At present we are feeling keenly the competition of America, a competition that is not likely to diminish, for it possesses over 100 schools of chemistry, and has 10,000 students of engineering. This competition we can only hope to resist by imitating the foresight, generosity, and enthusiasm for science of the American Governments and of the American men of wealth. Examinations are of secondary consequence. China is the most examined country in the world, and look at it. Original work done under the professor's eye and at his suggestion is far better than any examinations, and the true ideal of a real university must always be in the words of Paulsen, "True knowledge from free research." Let us hope that we shall not have long to wait for many such universities, where the best and most practical scientific education will be open to all at low cost, as in the University of Michigan, where the fees do not exceed £7 a year, or at no cost at all, as in the State of Massachusetts, and in many of the Western States of America. It is not trades' unions and skilled workmen that can insure the continued prosperity of a nation, but the trained intelligences that direct its energy; and we may rest assured that whichever nation shall elevate highest the general standard of education will be the nation which will lead the world. Since the preceding section was written I have to record the magnificent generosity of Mr. Andrew Carnegie, with his gift of £2,000,000 to the Scottish Universities, one portion of it to be applied mainly to the teaching and endowment of research, and the rest to replace the fees hitherto paid by their students. Happy Scotland! that not only receives about one-third of the whole parliamentary grant for university education, but has found besides such a princely and far-seeing benefactor as Mr. Andrew Carnegie.

Aspiration, Ethics, and Conclusion.—And now for a few concluding words about the aims, the aspirations, and the ethics of the profession. After a long and expensive education, after knowledge acquired laboriously and at great personal risk (the clergyman's death-rate is 16 per 1,000, the lawyer's 20, and

the doctor's 25) the medical man must not hold himself too cheaply. He is the heir of a long tradition, originating from the sages of India and from the temples of Greece. Our health and happiness are in his hands and the issues of life and death tremble often upon his judgment. So he must bear himself with confidence and proper pride, remembering his great traditions and the antiquity of his calling, which ranks next to that of priest. He is worthy of his hire, and that hire should be such that in the day of his popularity he may make due provision for his age and retirement and for those whom he will leave behind him. He must work hard and read and think all the days of his practising, for the best practice of to-day will not be that of even five years hence. His aspirations must be for the very best in each department of practice, for the progressive advancement of his art, and for the increased dignity and consideration of his calling.

Above all, let him be chary of any commerce with the enemies of science. *Magna est Scientia et prævalebit.* None the less serious is his responsibility who, knowing its benefits, yet retards its progress, or who ignorantly would deny to others what he is insufficiently instructed to understand for himself. Beware of panaceas. There are none in truth, though the worship of Panacea was not confined to Ancient Greece, and is as reprehensible in the cold clear light of twentieth-century science as is the equivalent assumption by too many specialist omniscience.

The wise practitioner will strengthen his position, as he will certainly increase his knowledge by somewhat frequent consultations, and he will do well if, like Hunter and Jenner, he cultivates some extraneous intellectual interest to relax occasionally the stress of his anxious labors. I venture to think that nothing will do him more good than the pursuit of one or other of the arts, or of some branches of biological or physical distraction, be it zoology or botany, electricity or telescopy. The wise practitioner, moreover, will confine his studies within certain limits if he wishes to attain to a thorough knowledge of even some portions of his great subject. He cannot be a universal specialist. The good and worthy practitioner will never be wanting in sympathy. Too often there is physical pain to be relieved, and, thank God, it can be relieved; though at other times the sufferings will be nervous rather than physical; and these are the occasions when sympathy and patience are most needed, though it is not always easy to show the first and to retain the last in the interest of some nervous sufferer on a cold wet night at 3 a.m.! In respect of medical ethics the case is very simple. Treat and think and speak of your brother practitioners as you would wish them to treat, and think, and speak of you. Medical ethics are, indeed, so completely summed up in this single sentence as to make it quite unnecessary for me to say more. With high aims and aspirations, with true ethical, that is to say, brotherly feeling, and with constant consideration for the public weal, we shall each and all be worthy of the well-known description in Chaucer, and be "veray parfit practisours."

Address in Surgery.— Sir William Thomson presented an address on some "Surgical Lessons from the Campaign in South Africa." The weapons of war have been entirely revolutionized during the past fifty years and the advent of the modern small-bore rifle has introduced into military surgery a large number of entirely new problems. The war was essentially a war of small arms; and so far it would seem as if all the improvements in them have not added to their immediate destructiveness. But this conclusion would not be entirely justifiable. The weapons are more accurate and of greater range than have been employed before, and given the same conditions of closer quarters and the formation of troops as formerly, opposed men, armed with breech loaders and using magazines, must inflict terrible damage. We have had some instances of the result in this campaign. What has happened is that we have learned to diminish the effect of the fire by making considerable intervals between the men; so that there is much less damage from loose unaimed firing than if the enemy had huge blocks of human beings for targets. If we add to this the fact that firing begins at a range of 2,000 or 1,500 yards; that the very light bullet is subject to the deflection caused by varying densities of atmosphere and force of wind, all conducing to inaccuracy of shooting, we have some reasons why the efficiency of modern rifle fire under certain conditions has so happily disappointed our anticipations.

The Effect of the Small-Bore Bullet.— When, however, we come to consider the nature of the wounds inflicted by the two classes of weapons the difference is very great; and this depends mainly upon the character of the bullet employed. The old flint lock had a ball nearly seven-tenths of an inch in diameter, the Minie rifle of the Crimean war one of six-tenths, the Enfield of five-tenths, the Martini-Henry of four-tenths, the modern small bore represented by the Lee-Metford is about three-tenths, and the Mauser is a decimal smaller. The bullets in the first group were all of lead, and elongated, with the exception of that of the old musket; the bullets of the second group, however, which may be likened to an inch and a quarter of ordinary lead pencil, are encased in a hard cupro-nickel case, somewhat pointed, polished, and absolutely smooth. The vast majority of wounds received in South Africa were caused by these bullets. It is certain that the enemy used other varieties; some-

times the soft-nosed sporting bullet, which, having an end of exposed lead, spread out on impact and inflicted a lacerated wound. Explosive bullets for big game have been found on prisoners; and the old Martini rifles were used with considerable freedom. In other instances the mantles were split at the top so that they expanded on impact. But it was not always possible to identify the effect as due to a missile contrary to the usages of civilized war. There is a popular belief that an elongated bullet must hit its object practically at right angles if that object is upright when presented to the line of fire. But between the discharge of the bullet and its arrival at the mark, a great many things may happen. It is often deflected in its flight, or it may be turned by clothing or other substances, and make its impact at all sorts of angles, causing large wounds. Sometimes the Mauser bullet has turned completely around and entered base forward. But a great number strike the ground, or a stone, and become much more formidable in their effects. This ricochet produced many kinds of deformities in the bullet; the case was often torn off wholly or in part, and, when the primary contact occurred close to the body spattered the skin about the entrance wound with small fragments of the cupro-nickel mantle. Now and again the exposed lead mushroomed and produced ghastly lacerations. But the result of a bullet striking soft parts sideways after a ricochet often made it difficult to believe that it had not contained a bursting charge.

Wounds of Soft Parts.—The large number of those wounded in the soft parts who recovered was a matter of surprise. This result was due to at least three factors, namely, the bullet itself, the early application of the dressings and the climate. The bullet seems to cleave the tissues rather than tear them apart; the early aseptic dressing and the high temperature and dry air; these were the main causes.

Wounds of Bones.—In the treatment of compound fractures of the femur the lesson that was learned was that conservative treatment gave by far the best results. Amputation of limbs was quite the exception, and was only done when the case was otherwise beyond hope. For the lessons of modern surgery, the vast possibilities of recovery which the teaching of Lister had put within the grasp of every practitioner of the art in the world, had already proved that the nearer we could approach the natural conditions the greater the safety for the patients. Therefore when a bone was broken by a bullet, and there was no other lesion but the track made through unimportant soft parts, the indication was to apply an antiseptic dressing at once, to secure as much immobility as possible, and to have the patient sent to a place where rest and more deliberate attention could be had.

Perforating Wounds of Abdomen.—On the whole, considering the difficulty of diagnosis in many instances at the outset, the fact that intestines may be found unwounded, and if wounded may be occluded by natural processes if not interfered with, it seems that in war as we stand at present the man whose abdomen is perforated by a small-bore bullet has a better chance of life without operation than with it, bearing in mind the circumstances on the field under which laparotomy must be performed. That is an opinion which most surgeons came to when experience had ripened after the early months of the campaign. Although the judgment may be a little humiliating it is one which must for the present be accepted.

Progress Made by Military Surgery.—We have seen a marvelous proportion of recoveries from severe wounds, and we have been able to rejoice at the great reduction of suppurating cases, and the practical absence of such infective diseases as tetanus, erysipelas, pyemia and hospital gangrene. This great difference in the record of to-day as compared with those of older and more bloody wars does not depend mainly upon the alteration of the bullet used. That, as we have seen, can do fearful things to a dense obstacle, and add to its power for mischief by the laceration caused by bony fragments which it scatters in impact. To some extent, the smallness of the canal made by it helps toward recovery. But, above all, the results are due to the treatment of the wounds by the surgeon, and the operation of those great principles which have developed under the splendid genius of Lord Lister. He has made possible the unquestionable triumph of conservative treatment. Honored as he is throughout the whole world, proud as we all are to claim him as a compatriot, his most enduring memorial will be in the multitudes whom he has been the means of saving from pain and death, and in the direction which he has given to scientific surgery for all time.

Pervading all the work in modern military surgery and principles first enunciated by Lister are manifest and to rigorous asepsis and antisepsis are due the good results.

When the recoveries from wounds in this war are made up and analyzed, it will be seen what a tremendous progress has been made in protecting the injured from disaster, even in the face of all the difficulties of the battlefield. For, while in the general and stationary hospitals the precautions necessary in modern surgery can be observed, it is, after all, at the initial stage that safety from sepsis is to be secured. "The fate of the wounded rests in the hands of the one who applies the first dressing," wrote Von Nussbaum, and the truth of this assertion has been proved every day.

(To be Continued.)

BRITISH CONGRESS ON TUBERCULOSIS.

(Continued from page 199.)

State and Municipal Control of Tuberculosis.—Sir Herbert Maxwell spoke on this subject after welcoming the delegates. He spoke of the necessity of notification of tuberculosis and of the desirability of a preliminary education, especially of the lower classes, in the general fundamental ideas of the contagion in this disease. He pointed out the difficulties which legislators had to meet and emphasized the necessity of going slowly in all measures requiring legislative enactments. When the people realize that the mortality has been reduced from 38 per 1,000 in 1832 to 14 per 1,000 in 1894, and that tuberculosis still stands responsible for the greatest share in mortality than all the other infectious diseases put together, public opinion will soon array itself on the side of the sanitarian. He also touched on the subject of legislative control of buildings, holding it desirable that certain restrictions regarding the construction of dwellings, etc., should be enforced.

Mortality from Phthisis in England and Wales.—Dr. John Tatham, of the General Register Office, presented a series of statistical studies covering the past forty years. With very few exceptions, his tables showed that for all ages there had been a decrease in this time; this rate of decrease had varied widely, however, being much greater for females than for males. Apart from many aberrant conditions, the general figures showed a mortality of 2,579 to 1,521 per 1,000,000, as this decrease in males and from 2,774 to 1,141 per 1,000,000 in females.

Social Status, Food and Paternal Age.—These factors were discussed by Dr. J. von Körösy of Budapest. Among occupations, printers showed the highest mortality, showing a percentage of 60; cutlers, 50; shoemakers, 49; dyers and millers, 49; joiners, tinkers and locksmiths, 48; masons, 46; laborers, 43; tailors, 42; bakers, and journeymen, 40; drivers, 37; domestics, 36; carpenters, 34; officials, 34; butchers, 33; merchants, 28; innkeepers, 27, and lawyers, 27. Capitalists seemed most immune, 10 per cent., and physicians showed an incidence of 12 per cent. Over 40 per cent. more deaths occurred among the poor. With reference to the food of children, when brought up at home, an incidence of 5.4 per cent.; if out, 8.9 per cent.; if fed at the breast, 5.4 per cent., and if nourished artificially, 9.5 per cent. On the question of paternal age, he showed that phthisis occurs most often among children of very young mothers, while the frequency diminished with middle-aged mothers and then rose again with mothers over thirty-five years of age.

Notification of Tuberculosis.—Dr. Hermann Biggs of New York showed what had been accomplished in New York, Buffalo and Washington. New York was the first city to encourage compulsory notification; later the State of Michigan, and the cities of Buffalo and Philadelphia followed. As a consequence of such notification and the hygienic activities put in use there had been a reduction of 30 per cent. in the mortality arising from tuberculous disease.

Voluntary Notification in Manchester.—Alderman McDougall of Manchester said that early in 1899 a scheme for the voluntary notification of phthisis was submitted to the Sanitary Committee and had been accepted by them. The necessity for a municipal hospital for tuberculosis was pointed out and the methods detailed by which thorough disinfection was carried out in the places of notification.

There was much discussion on the question of compulsory notification and a resolution was passed encouraging voluntary notification.

Tuberculosis of Childhood.—Dr. Léon Petit of Paris described the establishment of dispensaries for children throughout Paris. Much good had already been accomplished by these institutions. Dr. S. A. Knopf of New York read a paper on State Aid in Tuberculosis in Children, in which he advocated its extension. Childhood was a susceptible age. Tuberculous mothers, kissing, crawling on dusty, infected floors, trailing dresses in schoolrooms and general gathering places were among the factors dwelt on as conducive to infection.

French School Colonies.—Dr. R. Bompard said that the system of fresh-air outings for school children of Paris had proven of great benefit. Private enterprise had been supplemented by municipal aid and in Bordeaux, Lyons, Marseillès, Roubaix, Lille, Agen, Toulon and Paris, the system was in active operation. In Paris alone 4,000 children had benefited. The average length of stay was three weeks; the average gain in weight four pounds, and the average increase in chest measure about one inch.

Housing and Aggregation.—Dr. H. Coates of Manchester gave the results of an investigation of the presence of infective material in dwellings occupied by consumptives. Dust was collected in houses, obtained in the course of voluntary notification, and examined by biological methods. These examinations showed the constant presence of the tubercle bacillus in rooms occupied by phthisical patients. It was present in greater amounts and was more virulent in rooms shut off from air and sunlight. He then detailed the methods adopted to disinfect thoroughly the living-rooms which had harbored consumptives.

Dr. J. Robertson of Sheffield read a paper on the same subject which dealt with the factory, dwelling-house and workship problems. It had been amply proven that the air, light and ventilation of these places were not ample. Improvements, notably in the food supply, had been of help in the tuberculosis problem, but there was much more to be accomplished. In

workshops and factories, the amount of air space was much below what it should be.

This view was vigorously upheld by Dr. A. Ransome of Bornemouth who read a paper on the subject.

Air Supply of London.—Dr. T. Glover Lyon of London defined pure air, fresh air and vitiated air as the main types. Fifty years ago the air of London was perfectly good; at the present time, pure air was unattainable for the great majority. The present regulations of air supply for individual dwellings were considered distinctly inadequate and there was no provision made for ventilation.

Control of Meat Supples.—Dr. S. F. Murphy of London spoke of the difficulties of municipal inspection of meats with reference to tuberculous infection. The discussion brought out many expressions of opinion contrary to those of Dr. Koch.

In the Section on Climatology a large number of papers were read. Most of these dwelt on special features in places of local interest, more particularly to English and Continental physicians and are not here considered. Drs. Williams, Lannelongue, Achard Gaillard, Amrein and Hichens Zammit, Stephani, Jonnart and Guetschel read interesting papers bearing on climatology and tuberculosis.

Tuberculin in Human Tuberculosis.—A discussion on this topic was opened by Dr. Heron, who said that the remedy was a very valuable one and had fallen into disrepute because of the following factors: Its use in unsuitable cases, use of too large doses, neglect of temperature rule, increased dosage, and prejudice due to severe symptoms. He believed it to be a valuable remedy in the diagnosis of the disease.

Serum Diagnosis in Tuberculosis.—Drs. S. Aloing and P. Courmont of Lyons said that the serum reaction could be obtained with moderate regularity. It seemed to them that the graver cases gave a larger number of negative reactions. From a practical point of view a positive serum reaction was a sign of great value in favor of the existence of surgical tuberculosis.

Pretuberculous Manifestations.—Drs. A. Robin, E. Papillon and S. Bernheim read papers bearing on this subject. Dr. Robin thought that a careful study of the breathing capacity and particularly of the respiratory exchange would often lead one to a knowledge of the disposition to the disease and to suggest a hygienic régime to overcome such a tendency.

Dr. Papillon said that an arthritic tendency might reveal much the same thing. Dr. Bernheim spoke of the method of modifying the body metabolism so that a tuberculous soil, deficient in acidity might be converted into one with more acid. Chlorides and phosphates are wanting in the tuberculous soil and the frank arthritic patients rarely have phthisis. The meat cure was a means of adding acid to the body. He employs phosphate of creosote.

Lymph-Gland Involvement in Meningitis and Miliary Tuberculosis.—Drs. Haushalter and Fruhinsholz of Nancy showed that in 78 necropsies of children dying from miliary tuberculosis, 95 per cent. had tuberculosis of the tracheal and bronchial glands. Of 67 cases of tuberculous meningitis, 64 had affected glands. In almost every instance the origin of the bacillary infection which ended in the miliary and meningeal forms was in caseous tracheal and bronchial glands.

Variations in Morphology.—Dr. A. Moeller of Berlin discussed some bacilli which resembled the tubercle bacillus, notably the butter and timothy organisms, and went into details concerning their growth, characters and staining reactions, which latter features were dwelt on at some length by Dr. W. Bulloch of London.

Infectivity of Milk.—Dr. Lydia Rabinowitch of Berlin said that tuberculosis in cattle was responsible for the great increase of this disease among cattle and swine and that the milk was the most important item in this contagion. Tubercle bacilli had often been found by her in milk from sound udders; the tuberculin test was the only practical test to determine the presence of latent tuberculosis.

Immunity to Tuberculosis.—Dr. T. Yabé, of the Japanese Navy, reported on three bodies isolated from the tubercle bacillus, two of which, termed by him tuberculo-myco-protein and tuberculo-bactericidin, had the property of conferring immunity. He concluded that an immunity could be conferred, but as yet the substances were too toxic and had to be modified.

Tuberculosis in Animals.—A general symposium was held on this subject. Professor Dewar, opening the discussion, said that tuberculosis of the udder was present in about 3 per cent. of cattle and that a good tuberculin under proper precautions would give 90 per cent. of successful tests.

On the subject of the milk and meat supplies Messrs. A. W. Dollar and James King said, regarding the former, that the general interest in the subject had already resulted in satisfactory regulation of the milk supply in many countries; still an extension of the Bang system in stamping out tuberculosis in cattle was advisable. Mr. King said that tuberculosis in cattle was a cause of great loss to the farmer and to the meat-trader and that the home market suffers from American competition. The home cattle are more often affected with tuberculosis, because proper attention is not given them. This is in part due to economic reasons and partly brought about by ignorance. If farmers offered healthy cattle to the butchers, it is likely that the meat traders would not be so prejudiced against the home product.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, May 13, 1901.

The President, Robert F. Weir, M.D., in the Chair.

Gliosarcoma of the Base of the Brain.—Dr. Henry W. Berg referred to a case which came under observation at the Mount Sinai Hospital during the summer of 1900 and was recognized as one of cerebellar disease soon after admission. The patient, a man, gave the following history: H. H., a Russian, thirty-six years old; family history negative; had never had syphilis. A week before admission he began to suffer from severe frontal headache, chiefly localized over the right eye. Later he suffered from slight fever, dizziness and vomiting. He complained of great vertigo in walking, but there was no true ataxia. Patellar tendon reflex were exaggerated, especially on right side; eye muscles normal; face slightly flattened on right side, numbness on left side of face, and hyperesthesia of skin behind the left ear and over the left mastoid area. Optic neuritis was present. The patient complained of numbness on left side of face and sensation in this locality was diminished. There was slight titubation and staggering in walking, more frequently toward the left side than the right. The diagnosis at this time was a probable local lesion of the cerebellum, or base of the brain, pressing upon or involving the fibers of the left facial nerve. Upon the basis of local specific disease he was treated with iodides and mercurial inunction. Owing to the persistent vomiting, however, the amount of iodides which he could take was very much limited. On September 28th Dr. Sachs found slight lateral nystagmus and also some vertical nystagmus; both recti externi deficient; grasp of both hands, especially the left, weakened; diminution of sensibility to touch and pain on left side of face; slight ataxia in left upper extremity; slight cerebellar titubation; hearing on left side diminished. On October 5th the patient was transferred to the surgical service but died. Autopsy showed in front of the left lobe of the cerebellum, within the dura, a firm whitish tumor measuring about 4 cm. in all directions. The tumor lies on the petrous portion of the temporal bone, just over the internal auditory meatus. The pons is indented on its left side. The nerves at the base are pressed upon. Histological diagnosis, gliosarcoma. Dr. Berg said that almost all the symptoms by which the lesion was recognized and localized depended upon the interference with the functions of the left facial and auditory nerves and the characteristic symptoms of cerebellar disease.

Diagnosis.—Undoubtedly the most important symptom noted in this case, from a diagnostic standpoint, was the titubation or cerebellar ataxia. This is not an ataxia in the true sense, but rather a staggering in walking and standing which is one of the characteristic symptoms of cerebellar neoplasms, etc. The staggering of this patient was to either side and was of the variety of cerebellar ataxia which Bruns believes to be due to a lesion of tracts of fibers passing from the brain through the superior peduncles of the cerebrum to the cerebellum, and thence through the inferior peduncles to the spinal cord. For the most part these tracts pass through the processus vermiformis. Many cases are on record, however, of small tumors of the hemispheres of the cerebellum in which the vermiformis was not involved, and yet in which typical cerebellar ataxia occurred; while, on the other hand, lesions of the vermiformis have been reported in which cerebellar ataxia was absent. In the case under discussion the tumor only compressed the left hemisphere of the cerebellum and did not affect the vermiformis even indirectly. From the presence of cerebellar ataxia, therefore, we can infer only that there is cerebellar disease, without attempting, from this symptom alone, to localize the portion of the cerebellum involved. There was at no time convulsions, either of a general type or localized. This is the rule in cerebellar tumors, which in this respect present a marked contrast to tumors of the cerebrum. The hypersensitiveness of the skin behind the ear and over the mastoid was an extremely interesting symptom, and may have been due either to an irritation of the sensory fibers of the trigeminus, or, more probably, directly to the growth of the tumor. This localized hypersensitiveness, together with the deafness and temperature, led Dr. Berg to suspect at first an abscess of the cerebellum secondary to mastoid disease. The fact that the abducens was paralyzed appears to point to direct pressure on the sixth nerve, and this paralysis, therefore, like that of the facial and auditory nerves, was an aid to the localization of the tumor.

Surgical Aspects of the Case.—A paper on the surgical aspects of the case by Dr. Howard Lilienthal was read by Dr. Berg. Craniotomy was performed. After incision of the dura, about three drams of fluid were withdrawn by aspiration. Exploration with the grooved director revealed nothing, and the forefinger was cautiously inserted for nearly two inches, but without meeting abnormal resistance. A considerable piece of the cerebellum which had been forced out as a hernia was then ablated. The patient died from shock eighteen hours after the operation. Dr. Lilienthal said that, in view of what was found postmortem he had concluded that under similar circumstances (an accurate localization having been made during the progress of the case), it would be wisest to persist in the search for a palpable lesion, even though a very considerable portion of the cerebellar substance had to be sacrificed.

Implication of the Vermiform Process Necessary for the Production of Cerebellar Ataxia.—Dr. E. D. Fisher, after describing a case in which, although it was under observation for a considerable period, the diagnosis, owing to the obscurity of the symptoms, was made only about a month before death, said that his observations had led him to believe that when there is a destructive lesion of the cerebellum the staggering is away from the side of the tumor, and when there is an irritative lesion, the staggering is toward the side of the tumor. Some years ago he made a series of experiments on dogs and monkeys which seemed to demonstrate this completely. Again, he had become convinced that staggering would not occur unless the fibers of the vermiform process were affected. He agreed with Dr. Berg that the involvement of the cranial nerves fixes absolutely the side on which a cerebellar lesion is located.

Atonia as Important a Symptom as Ataxia.—Dr. M. G. Schlapp described a case at the Presbyterian Hospital, which came under observation in December last, in which the tumor involved the right lobe of the cerebellum. The patient was a little girl, nine years old, who had been blind for a month when first seen. Among the other symptoms were headache, vomiting, deafness in the right ear, staggering toward the right, atony of the right arm and leg, and general weakness of the right side. Dr. McCosh operated and the patient survived for about ten days. Dr. Berg had stated that nystagmus was caused by pressure on the corpora quadrigemina, but he thought it much more probable that it was produced by affecting fibers from Deiters nucleus. Dr. Berg did not lay any stress on atonia of the body, but he believed that it was just as important as ataxia in the diagnosis of cerebellar disease. He also took issue with Dr. Fisher as to the effects produced by destructive and irritative lesions. Luciani's experiments were not in accord with those of Dr. Fisher, and the case of Dr. Berg did not verify his observations. It is the cases in which mixed symptoms occur which give rise to so much perplexity in regard to diagnosis.

BOOK REVIEWS.

UTERINE FIBROMYOMATA; THEIR PATHOLOGY, DIAGNOSIS AND TREATMENT. With forty-nine Illustrations. By E. STANMORE BISHOP, F.R.C.S. Eng.; President of the Manchester Clinical Society; Fellow of the British Gynecological Society. P. Blakiston's Son and Co., Philadelphia.

THE study and the treatment of fibroid tumors of the uterus have been almost exclusively in the hands of the gynecologists. The epochs of progress in this specialty have been marked by milestones indicating the proper estimate to be placed on the various pathological conditions found in the female pelvis, and determining for the gynecologist, for the general surgeon and for the profession at large which of the conflicting methods of treatment is best. Uterine fibroma is one of the pathological developments that have been subjected to careful and prolonged study and experiment, and, although we have not yet determined its incipient cause, we do know its histological and clinical history and are able to speak authoritatively regarding its treatment.

It is certainly becoming, therefore, that a special treatise should be devoted exclusively to the subject, and Dr. Bishop has produced a volume quite worthy of the theme. The aim of the author has been to present a practical work, rather than an exhaustive digest. Those who expect to find here a repository of all the extraordinary and curious manifestations of the disease will be disappointed. The anatomy, development and secondary changes are fully discussed and the author's position on various subjects is strongly fortified by appropriate and convincing cases. The gravity to the patient of the existence of fibroid disease is, as evinced by secondary changes and complications, strikingly set forth in the impressive details of a few actual cases that ran their natural course, *i. e.*, were not treated.

Whether the etiology will be found to reside in a micro-organism, in inflammatory changes due to infection, or in the development of embryonic structures is the question of the future. Into all the intricacies of etiological speculation our author does not go, but he sketches in a few, broad strokes the main features that may be capable of causing these growths.

In treatment the role of medicine is judicially discussed and the weight of authority for the use of the various medicaments carefully analyzed with final judgment negativing every one. Electricity is damned with faint praise, although, strangely enough, credit is given it for the control of hemorrhage. "It is absolutely useless, and may be very harmful in cases of edematous, calcareous, fibrocystic, sarcomatous, or necrobiotic fibromyoma and in all cases where there is concomitant inflammatory disease of the appendage it should be absolutely forbidden," says the author.

He is unequivocally in favor of operative procedure as the only justifiable method of treatment. To this part of the subject he devotes three chapters, describes in detail the various procedures, both of myomectomy and hysterectomy, and is fully up to date. Curettage of the uterus to stop hemorrhage the author condemns, as the injury done by it to the adjacent tissue and the capsule may render the tumor an easy prey to septic infection and its subsequent degenerative changes. Carcinomatous degeneration of fibroids the author declares impossible. The illustrations are not quite up to modern standards, but the book as a whole is worthy a place in every medical library.

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ORIGINAL ARTICLES.

FIBROMA OF THE MESENTERY.[1]

BY J. B. MURPHY, M.D.,
OF CHICAGO.

THE following history was given by the patient: Mrs. J; aged twenty-six years; family history negative; born in Russia; has lived in the United States ten years; nervous temperament; general health good; appetite good; bowels regular. Menstruation began at the age of fourteen, was regular and normal until the patient came to this country, since which time there has been quite a profuse discharge, lasting five days. She has been married three and a half years, but has not been pregnant. She had influenza three years ago. During the past two and a half years she has complained of pain in the right side, with painful and frequent urination. Four months ago she felt a tumor in the right iliac fossa, round in shape, hard, and not particularly painful on palpation. Patient states that the tumor would change its position from day to day. Sometimes it could be felt in the right iliac fossa, sometimes in the left. Careful manipulation showed that the tumor could be pushed up as high as the ensiform cartilage when it was located on the right side, and when the tumor was pushed into the right iliac fossa the pain would disappear. After eating a full meal she felt distressed and nauseated and on several occasions vomited.

From the history given, one can readily see that there is nothing definite from a diagnostic standpoint. There are a few things, however, which are of value, but which were not especially so before the operation. When the patient was examined in my office, the tumor was easily palpable in the left iliac fossa, or, better, down in the left side of the pelvis. By bimanual palpation I could lift it out of the pelvis, but could not carry it upward to any degree, as she was sensitive to pressure. She did not state to me at the time that the tumor had ever appeared on the right side, or that she was able to elevate it at any time as high as the umbilicus. After careful palpation of the tumor it was ascertained that it was round and hard; it moved independently of the uterus, and from these findings I made a diagnosis of fibroma of the left ovary. I could not displace the tumor to the right of the spine at that time, which was doubtless due to the sensitiveness and contraction of the abdominal wall. When she was under the influence of an anesthetic, the tumor could be displaced out of the pelvis and well up in the abdominal cavity as it passed over the spine to the right side. The other symptoms had no definite relation to any intestinal lesion. The symptoms were those of uterine or ovarian rather than those of intestinal disease.

The tumor was hard and almost equally divided in halves by the mesentery. It appeared to have grown within the mesentery and spread equally from both sides of the mesenteric vessels. It was ovoid and about three inches in diameter. I was unable to palpate the intestine as it passed over the tumor, but I was able to discern an irregularity on its surface in the bimanual examination. Another feature to be noticed is that the intestine, the mesentery of which was involved, came down close to it for its entire circumference. This is peculiar to growths situated in this particular region, that is, a comparatively small tumor involves the vessels supplying an enormous area of intestine.

At the operation, as soon as the abdomen was opened, the tumor was brought into the center of the field, its mesentery ligated and twenty-four inches of the ileum excised with the tumor. Only one mesenteric ligature was used, as I compressed the mesentery after my usual plan with a uterine clamp and placed the ligature in the groove produced by the clamp, the "bite" of the ligature then having nothing but vessels and peritoneum in its loop. End-to-end union was made with button No. 3 and the rent in the mesentery closed with cutgut in a fine Mayo needle. Union was produced four inches above the ileocecal valve. The situation of the tumor low down in the mesentery prevented displacement upward on the left of the spine before operation. There is another point to which I wish to call attention and that is the small hematoma extending to the end of the loop of intestine at the site of the ligature. After I had clamped the mesentery and had applied the ligature, there was bleeding from one of the vessels in the side of the vertical incision. I put in a row of sutures, including both peritoneal layers of the mesentery in order to stop the venous hemorrhage, including in the suture a vein that drains this two-inch area, with the resultant hematoma. This brings up a matter I mentioned many years ago in connection with resections of the intestine, that is, one should remove as much of the intestinal wall as he has interfered with the vessels supplying that wall, regardless of the extent of disease of the wall itself. It has been the cause of many failures of union in intestinal resection that the arteries were ligated in the mesenteric base and the intestine which they supplied was allowed to remain with the result that gangrene followed. The danger is not so great from the ligation of the arteries as it is from obstruction of the veins, as is illustrated here, for the artery was

[1] Case presented to the Chicago Medical Society.

not included in the ligature, but the vein alone. As a result of occlusion of the vein, there was immediately extensive ecchymosis into the mesentery from the blood brought by the parallel anastomotic artery. I found from my experiments upon dogs that this frequently occurred.

In connection with tumors of the mesentery I might say they are rare and the literature is meager. They are well divided into cystic and solid neoplasms.

- Mensenteric Tumors.
  - Cystic.
    - 1. Traumatic:
      - Sanguinous.
      - Serosanguinous.
      - Serous.
    - 2. Lymphatic.
      Chyleous (the latter the most common.)
    - 3. Dermoid (or congenital.)
    - 4. Parasitic (hydatid.)
    - 5. Displacement cysts from neoplasms.
    - 6. Tuberculous.
    - 7. Cystic sarcomata (Moynihan.)
      Harris and Herzog collected 57.
  - Solid.
    - Carcinomata,
    - Lipomata.
    - Sarcomata.
    - Fibromata,
    - Fibrocartilaginous,
    - Chylangiomata,
    - Adenolymphomata,
    - Malignant lymphomata,
    - Osteomata,
    - Endotheliomata.

Cystic tumors occur about twice as often as solid tumors. One hundred and twenty-three cases of the former were collected by Begouin to thirty-three of the latter. The cystic tumors of the mesentery are made up of dermoids or the congenital cysts that occur in the mesentery from embryonal remnants, always in females (Moynihan). They are made up of dilatations and occlusions of the chyle ducts. They are made up of remnants of the peritoneum; these cysts have a serous lining. It is a peculiar fact that we rarely see a cyst of the mesentery that has an epithelial lining, with the one exception, the dermoid. While these cysts may attain an enormous size and contain frequently several gallons of fluid, Lathuraz having removed one of forty pounds, they carry with it all the time a modernate dilatation of the arc of intestine over it, and at no time do they cause gangrene of the intestine. They occur at all ages from eleven weeks (Frederic Eav) to old age. They produce few symptoms usually until they cause pressure. They are practically painless, smooth, and movable, and continue in this way until they involve or encroach upon the neighboring tissues or organs, when they cause symptoms referable to the particular organ pressed upon. They may cause symptoms of ileus of the obturation variety. They occur usually in the upper portion of the small intestine, infrequently in the lower portion. In that sense they may be contrasted with the solid tumors to a certain extent, as these more frequently occur lower down. They are usually unilocular and single, except when chylous; then they may be numerous; W. H. Wenning reported as many as fifty in a single case.

The differential diagnosis between ovarian, pancreatic, renal and retroperitoneal cysts has not been frequently made before the operation or autopsy, and when the tumor is large it is practically impossible to make the differential diagnosis. The only important sign is the presence of an intestinal coil anterior to and adherent to the tumor. This we know to be deceptive from our experience with adherent intestine to other varieties of cysts in the abdominal cavity. When the abdomen is opened, sometimes the differential diagnosis can be readily made. At other times it will be found necessary to evacuate the cyst contents before its true location can be determined. Keith says that they should not be disturbed unless they produce grave symptoms.

The treatment of these may be divided as follows: (*a*) Aspiration. Begouin collected seventeen cases of puncture with aspiration with nine recurrences. Barquehaye collected sixty-two cases with forty-seven recurrences, seventy-five per cent.; there was not a single death or unpleasant sequence. As would be expected the chylous cysts were the most frequent in recurrence after aspiration. Hochenegg strongly favors this method of treatment. (*b*) Puncture with fixation of cyst-wall in abdominal incision and drainage (Spencer Wells, Lawson Tait and others). This procedure had a mortality of five per cent. in nineteen cases collected by Péan. (*c*) Primary enucleation of cyst. This is an extremely dangerous procedure. Begouin found a mortality of sixty per cent., shock, peritonitis, and intestinal gangrene being the principal causes of death. Péan found seven deaths in eighteen cases operated by extirpation, a mortality of thirty-seven per cent. We can therefore conclude that primary extirpation should be resorted to only when the cyst is small and a small portion of the base of the mesentery involved. The interference with the mesenteric

Fig. 1.

circulation even for an inch or an inch and a half at its base may jeopardize the vitality of an enormous portion of the intestinal tract, as we know that the entire mesentery at its attachment to the spine is variously estimated at from four and a half to eight inches, carrying at its periphery twenty-two to twenty-seven and a half feet of intestine. (*d*) Primary drainage with secondary enucleation. This can be accomplished in the class of cysts in which ablation of the cyst-wall is necessary, because, owing to its histological structure, it cannot be expected to heal by simple drainage (dermoids, ecchinococcus and chylous cysts). These, however, can be enucleated with little danger when they are greatly reduced in size by drainage.

The solid tumors are of many varieties from a histological or pathological standpoint. They represent about thirty per cent. of all the mesenteric tumors. Histologically they consist of (*a*)

Fig. 2.

epithelial and endothelial growths (carcinomata and endotheliomata); (*b*) connective-tissue growths (sarcomata, fibromata, lipomata); (*c*) lymphoid growths (lymphomata); (*d*) vascular growths (angiomata and lymphangiomata); (*e*) nerve-tissue growths (neuromata); (*f*) chylangoma.

The latter are essentially retention-cysts and do not properly belong with solid tumors. The above tumors undergo numerous changes, such as chondrification, ossification, caseation, etc. They vary greatly in size and situation. They occur most frequently in the lower portion of the small intestine and may attain an enormous size. Terillon removed a lipoma weighing fifty-nine pounds, Van der Veer one weighing fifty-six pounds, Péan, fifty pounds, Shepherd, a myxofibroma weighing thirteen pounds, and Brookhouse a fibroma weighing thirteen and a half pounds.

The importance of a tumor in the individual case depends upon its histology and its anatomical relations to the vessels of the mesentery, as well as upon its size. The lipomata, the largest of the solid tumors, are often encapsulated and can be shelled out of the capsule without materially interfering with the blood supply of the intestine.

Of the solid tumors occurring in the mesentery, the most common is carcinoma, secondary to carcinoma in some other position. Next in frequency is the fatty tumor; next the sarcoma, and, after it, the fibroma, to which class the tumor in the case reported belongs.

In reviewing the histories of these cases I was unable to find in the literature more than eleven cases of fibroma of the mesentery. Those are recorded all the way from 1824 down to the present time, as shown by the following table:

FIBROMATA.

Brichiteau.	1824	Paris.	Fibrocartilaginous.	
Duhamel.	1863	Paris.	Fibrous.	
Cooper-Foster.	1867	London.	Fibrous lipoma.	
Dickinson.	1870	London.	Fibrous.	
Ladmiral.	1874	Paris.	Fibrous	
Koenig.	1890	Berlin.	Fibrous.	
Brookhouse.	1890	Nuttingham.	Fibrous.	
Belkowsky.	1893		Fibrous.	
Shepherd, F. J.	1897	Montreal.		13.5 pounds, 8 feet intestine, recovery.
Vinc.	1899	Mitrovitza.	Fibroma.	
Lexar.	1900	Berlin.	Fibrous.	
Murphy.	1901	Chicago.	Fibroma.	

Of the solid tumors of the mesentery the one most frequently diagnosticated was sarcoma. Something like a year and a half ago I saw a case of this type in consultation with Drs. Bodoin and Cartledge of Louisville. The patient was a very prominent man of that city, who had a tumor growing at the beginning of the mesentery just below the left costal arch. The tumor gradually increased in size, and what led to the diagnosis of sarcoma of the mesentery was the fact that the soft intestinal coil could be palpated over the apex of the tumor, and, as the tumor was fixed, it led to the statement that it was irremovable. The patient, however, insisted upon the performance of an exploratory operation, which was made. The small specimen removed was examined with the microscope and demonstrated to be a lymphosarcoma of the mesentery.

Professor W. A. Evans gives the following report of the specimen I present to-day: "Sections demonstrate that this is a fibroma. The fibers are mostly wavy, long and parallel in arrangement. In other zones the fibers are loosely arranged and the interfibrillar spaces have been filled with some soluble material. The blood-vessels are not very heavy walled. The cells are either long, narrow and deeply staining, or round and vesicular as shown by staining. There are no myxoma cells."

Fibromata do not appear so near the base of the mesentery as the sarcomata. The fibromata appear usually close to the intestinal wall; the sarcomata lower down, even in the retroperitoneal tissue, and on this account they greatly endanger the patient's life by any operative procedure.

The gravity of operation depends largely upon the extent of the intestinal tract that is necessary to be removed. Dr. Francis J. Shepherd removed a tumor situated deep down in the mesentery which on account of its size also formed a close attachment to the intestine and required the removal of eight feet of the intestine in its extirpation. The patient made a good recovery, even after such an extensive intestinal resection, which I believe is one of the largest on record from which a patient has recovered.

The danger of the operation consists, first, in shock and second, hemorrhage from the mesentery in separating a tumor with close attachment to the intestine.

According to the statistics given by Drs. Harris and Herzog in their joint paper, they show that forty per cent. of the cases die as a terminal result of mesenteric tumors. They do not mention the differentiation between those cases that die from the disease after the operation and those that die from the disease without operation, but simply that forty per cent. die. In looking over the literature of operations more recently collected, I find that of twenty-nine cases operated, fifteen died and fourteen recovered. There is an enormous mortality from the operation in removing these tumors, and this brings up the question, Can we in any way avoid their removal when they are either cystic or solid? Of the solid tumors of the mesentery, particularly if they are sarcomatous, there is no way of avoiding operation. As regards fibromata, in the literature it is mentioned that the blood-vessels as a rule pass directly through the tumor, and this was the condition in the case I present. Therefore there is no means of saving the arch of intestine which receives its blood-supply from these vessels.

Of the malignant neoplasms, some are encapsulated and may be removed with the capsule without materially jeopardizing the intestine. But the majority of these cases, particularly the carcinomata and sarcomata, require the removal of the mesentery for a considerable distance beyond the tumor line and necessitate extensive intestinal resection. Even then the period of immunity must be expected to be short. Many times they are so extensive that extirpation is not possible, as in the case of Drs. Bodoin and Cartledge of Louisville. In this case the diagnosis was made before the exploratory operation and verified by the physical and microscopical findings. The mortality from operation is about the same as that for primary extirpation of large cysts.

The situation is entirely different when we come to consider operations for encapsulated fatty tumors and large cysts of the mesentery. These comprise two-thirds of the tumors of the mesentery, and operative procedures for their removal are entirely different from those for solid tumors. In cysts the methods of operation have been aspiration, drainage and fixation of the cyst to the abdominal incision, primary enucleation, and secondary enucleation. The best results have been from aspiration. Statistics show that twenty-eight per cent. of the cases of cysts of the mesentery recover by simple aspiration. They further show that where the cysts have been tapped and fixed in the abdominal wound, there has been a mortality of 5 per cent., while in those cases in which the tumor has been directly removed, the mortality has reached 52 per cent. (Begouin).

There is a certain class of cases, however, that will not respond to the aspiration treatment and those are the cysts that are lined with epithelium, the dermoids. The dermoid may be fixed in the abdominal wound and drained, just as endothelial-lined cysts may be drained until contraction of the cyst-wall takes place, and then enucleated. This is the method which is particularly to be recommended in the removal of cysts in this area.

This patient was operated ten days ago. She was given liquid diet from the first and has not had an unpleasant symptom. This morning I palpated the button in the rectum through the vagina. (It was passed on the twelfth day.)

ARSENIC AND ITS COMPOUNDS; WITH SPECIAL REFERENCE TO SODA CACODYLATE.

BY CHARLES WILLIAM HEITZMAN, M.D.,
OF DENVER, COLO.;
LECTURER ON HYGIENE IN THE DENVER COLLEGE OF MEDICINE.

ARSENIC in small doses acts upon the respiration and circulation as a stimulant, but in large doses it is depressant. Whether its action as a hematic tonic is direct or not is an open question, but the fact that it increases the number of red blood-corpuscles is unquestionable.

The most marked effects of arsenic are produced upon the skin and nervous system. Experiments have demonstrated that in poisonous doses it will cause exfoliation of the epidermis. The deeper layers of the epithelium, the columnar layer, become softened, vacuolated, and separated from the connective tissue below. Sometimes the corneous is separated from the Malpighian stratum also. Dr. H. G. Piffard relates a case in which extensive exfoliation of the skin resulted in a patient who by mistake had taken a teaspoonful of Fowler's solution. Extensive desquamations have followed in cases in which it has been taken with suicidal intent. The writer remembers an instance in which a teaspoonful of the acid was fed to a pig with "homicidal intent" but the only noticeable effect on the animal was a complete exfoliation of the derma and hair. Arsenic acts directly on the epithelial cells, which become shrunken, both in cell substance and in nucleus. Brownish and grayish discolorations have been noted as effects of the long-continued administration of arsenic. Various eruptions, such as furuncles, papules and

vesicles, sometimes occur. Herpes zoster is sometimes seen in patients taking arsenic. This is probably due to a neuritis.

Almost constant effects of the internal administration of arsenic are a silvery appearance of the tongue, a slight reddening and irritation of the conjunctivæ, and puffiness of the eyelids. Large doses, or the long-continued use of small ones, may produce symptoms resembling those of poliomyelitis or multiple neuritis.

Arsenic is perhaps the most extensively used internal remedy in the treatment of skin diseases, and is probably the most valuable, provided the cases for which it is prescribed are selected. There can be no doubt of the great value of arsenic in psoriasis, its undoubted action in modifying epithelial tissue suggests its use. In eczema, not of the acute moist forms, it often acts with almost specific power. It is the only trustworthy remedy at our command in pemphigus. The papular eruptions termed lichen planus and acne yield to arsenic. It is of value in lupus erythematosus and in certain malignant diseases of the skin, epithelioma and sarcoma, etc.

In the various neuroses, chorea, neurasthenia, it is the best medicinal agent indicated. Certain cardiac and gastric neuroses are favorably influenced by arsenic. Diabetes is often cured by its use. Albuminuria dependent upon certain conditions yields readily to it. In the early stages of pulmonary tuberculosis arsenic has a *curative* action. The general nutrition is improved, the congestion and secretions of the bronchial mucous membrane are lessened, the cough is allayed, and the dyspnea relieved. Thus is the tuberculous process arrested and the patient cured.

That the use of arsenic does not always give the looked-for results along the line of diseases mentioned is not due to its inefficiency, but rather to not using it in sufficiently large doses, or in not continuing its exhibition long enough. Both of these conditions arise either from fear of its toxic effects or the actual production of them, and the remedy is discontinued. Very recently, however, the attention of the medical profession has been directed to the use of compounds of arsenic, notably sodium cacodylate. This preparation was first developed by Bunsen, but was not employed in medicine until about five years ago when Drs. Danlos and Gauthier began its use. Indications for its use are increasing daily, as it exercises a beneficial stimulating and tonic effect on all patients to whom it has been given. An almost immediate improvement in the general condition and appetite with an increase in weight is noticeable. It is eminently adapted to cases requiring large doses of arsenic and it is absolutely safe even in massive doses, being non-toxic in comparison with other arsenical compounds.

It may be exhibited hypodermically, in doses of from one to one and one-half grains daily, and up to six grains daily by the mouth or rectum. No matter in which way it is given the profound "garlicky" odor becomes discernible in the patient's breath in from three to seven days.

I herewith append brief histories of some of the cases in which it has been of decided benefit.

Case I.—S. F., female, married. History of case dates back to puberty from which time she has been exceedingly nervous. This has increased in later years. She has not been free from pain for the last two years. Complains of head pressure, headaches, backache, ovarian pains. Muscular and joint pains follow each other in succession or are all present at some time. Does not feel ill, but tires easily. Is constipated, and has periods of distressing indigestion; is anemic and has cold hands and feet. Is losing weight. On October 1, 1900, weighed 104 pounds.

Treatment consisted of the usual diet prescribed for these cases and sodium cocodylate, gr. ⅙ three times a day, before meals for ten days; then omitting remedy for same length of time. Increased dose to gr. ⅓ and gave as before. On December 5, 1900, the patient feels much better and weighs 112 pounds. Pains occur only at intervals and are of a different nature, lacking their former severity, etc. April, 1901, she is apparently well. No pains; circulation good; cheeks rosy; weight, 120 pounds.

Case II.—L. G. T., male; appearance good, physical examination negative. Complains of headache, sleeplessness and inability to concentrate mind on business. Treatment, cacodylate pill, gr. ⅖, three times a day. Subjective symptoms disappeared after the first ten days of treatment and have not returned.

Case III.—E. M. A., female, aged twenty-three years, came to Colorado seven years ago for lung trouble. Improved materially at first, but lately has "run down," lost weight, etc. Has had four attacks of "congestion or pneumonia" within the past year. Anorexia. Coughs a great deal, especially at night. Subnormal temperature in the morning, rising to 100.5° F. in the afternoon; pulse 90 to 100; dulness over right apex; upper portion of left lung consolidated.

Treatment consisted in the administration of sodium cacodylate in ½-grain doses, hypodermically, once a day for five days; an intermission of five days, and repeated in 1-grain dose for the same length of time. After the usual intermission the agent was given *per orem* in ⅖-grain doses three times a day. Result cessation of cough, appetite voracious, increasing in weight.

Case IV.—H. D. J., male, aged fifty years. Ten years ago came to Colorado for lung trouble. Had several slight hemorrhages. "Lung is now all right, but stomach is all wrong." Cannot digest anything. Gas accumulation in stomach immediately after ingestion of any sort of food and sense of discomfort is intensified, unbearably so, if anything like eating a square meal is attempted. Subnormal temperature; pulse irregular, 55 to 60; anemic; marked area of dulness over right apex; stomach dilated.

Treatment consisted in diet, milk, seltzer, zoolak; lavage; soda cacodylate, gr. ⅙, before meals. Improvement was marked from the start and still continues.

Case V.—R. E. G., male, aged thirty years. Second visit to Colorado for lung trouble. Has been here this time one and one-half years. Improved wonderfully for the first seven weeks. Had hemorrhage during October, 1899, that lasted off and on for twelve days. Temperature 103° F. During May and September, 1900, had "more hemorrhages." Very nervous; cannot sleep. Physical examination January 31, 1901, shows a temperature of 99° F., pulse 90, congestion of vocal cords, dulness over both apices, very marked on left side, weight 117 pounds.

Sodium cacodylate, gr. ⅙, was given before meals for ten days; usual intermission, then ⅓ gr. as before. April, 1901, weight is 120 pounds; temperature normal; pulse 80. He sleeps and eats well, coughs very slightly and only in the morning on first arising. Voice sounds normal.

Case VI.—B. C. D., female, married. Has lived in Colorado eighteen years. Has had "bronchial trouble" following "la grippe." Pain under right scapula, sleeps well. Appetite good, but "bloats" after meals and is losing weight. Complains principally of eczema all over; skin itches, and peels off. Temperature is subnormal; pulse 90; lungs and liver normal; stomach dilated and very tender to pressure.

Lavage was prescribed, also sodium cacodylate, gr. ⅙ and increased as indicated in the preceding cases. The lavage gave relief at once. After thirty days the eczema disappeared and the body weight is increased.

ACUTE PERITONITIS: ITS TREATMENT UPON AN ETIOLOGICAL BASIS.[1]

BY C. D. HILL, A.B., M.D.,
OF JERSEY CITY, N. J.;
SURGEON TO ST. FRANCIS HOSPITAL.

IN our student days we learned that the peritoneum is an immense serous membrane lining the walls of the abdomen, covering and protecting the organs contained therein. We learned that it is a closed bag, and that, by commencing at any place and winding the bag around the organs in a certain way, we could cover all the organs and arrive at the starting point. So we gathered up the bag and followed its meanderings "up hill and down dale," we treked along over the veldt, we jumped from kopje to kopje, from the liver to the stomach, and then took a long trail off into the omentum; turning back upon our tracks, we groped on in the by-ways and passages and turns and reflections; we struggled on and on, anchored it down here and there, to hold an organ fast, or to suspend another, or perhaps to get our own wind and bearings; we left one side of the bag behind, and tugged away at the other, and, just as we thought we were getting out of the woods, alas! we fell into a snake-hole called "the foramen of Winslow," and got swallowed up in the lesser cavity, and were unable to pull ourselves out of the morass to follow the windings of the other side of the bag.

[1] Read before the Hudson County Medical Society.

If we could never satisfactorily unravel the puzzle of the peritoneum, in all its reflections and turns, we found out that there is plenty of it to cover all the abdominal organs and to separate one from the other. When we learned that the whole glistening surface of the peritoneum is crowded with stomata connecting with lymph-channels, that, in fact, the peritoneum forms a great lymph-space, we can imagine what a wonderful power it has for absorbing liquids, whether innocuous or poisonous. So great is this power of absorption that experiments show that the peritoneum is able to absorb in one hour more than five per cent. of the body weight.

In health the peritoneal membrane acts as a mechanical protection to the abdominal organs. Under the influence of certain irritations it develops new processes which later we call adhesions, and these act as barriers to ward off infection. To show the importance of this protective power of the peritoneum, and also the frequency of peritoneal inflammation, Byron Robinson, after 170 autopsies, says, "Scarcely ever an adult can be found without peritoneal inflammations."[2] These chronic adhesions showed where there once had been acute inflammations—they were the efforts of Nature to limit a bacterial invasion, it may have been an appendicitis, a salpingitis or a traumatism to the peritoneum. But for these barriers there would have been an extension of septic materials.

Within the past two decades, thanks to the studies of the pathologist and the boldness of the surgeon (fortified by an aseptic conscience) we no longer look upon peritonitis as a disease *per se*, but only as a symptom of some other pathological condition—in other words, it is never primary but always secondary. We now look upon peritonitis as due to a germ infection, and if we follow up the sources of entrance of the micro-organisms, without which there can be no peritonitis, we come to the true causes of inflammation of the peritoneum. It is then that we will look upon peritonitis not as a disease, but really Nature's effort to ward off disease, and, as we will learn under treatment, our efforts should be directed, not against the local irritation or peritonitis, but against the onslaught of bacteria, and we will find the peritoneum itself our best assistant. Robinson says, "Peritonitis is Nature's method of repair and prophylaxis. Peritonitis saves life, while infection kills."

Those cases of peritonitis which seemed to be primary—that is, those in which no obvious cause could be found from an *ante-* or *post-mortem* incision—may have been due to bacteria which entered through some slight abrasion of the mucous coat of the intestine, which on examination was masked by the products of inflammation; or it may have been due to an injury of the abdominal wall, however slight, yet quite sufficient under certain conditions to give entrance to micro-organisms. When we call to mind that the intestinal canal is swarming with colon bacilli

[2] N. Y. Medical Journal, Jan. 25, 1896.

and other bacteria; that the mucosa may be injured by hard masses of feces or foreign bodies; that the resisting power of the patient or his peritoneum may under some conditions become diminished, it does not require any great stretch of the imagination to follow the track of the germ from its habitat in the bowel to the point of attack on the peritoneal membrane. These are the cases which are called primary or idiopathic, when our knowledge is not complete; or when there has been a history of rheumatism, syphilis or Bright's disease, have been called rheumatic, syphilitic or nephritic; but such can only very remotely be called predisposing causes.

Some of the avenues for the entrance of bacteria to the peritoneum are the following: (1) Any injury or disease of the alimentary canal sufficiently intense to cause a perforation, notably appendicitis, and less frequently ulcers; (2) any obstruction, such as invagination, intussusception, or strangulated hernia, which causes a necrosis of the gut; (3) septic conditions of the abdominal or pelvic organs, such as abscess of the liver or kidneys, and especially disease of the Fallopian tubes, giving rise to pelvic peritonitis; septic conditions of the postpartum uterus, giving rise to puerperal peritonitis, this latter often being classified under a distinct heading; (4) traumatism from within or without the lumen of the bowel, or traumatism to the abdominal wall, such as penetrating injuries caused by gunshot or stab wounds, or traumatism caused by operations.

Without going into the clinical pictures of peritonitis from its various causes, or even the variable clinical picture from any one cause, it is well to remember that peritonitis, as we term a certain group of symptoms, sometimes very distinct and again anything but distinctive, does show a wide range in its manifestations, subjectively and objectively. Sometimes the primary disease so gradually merges its symptoms into the secondary disease that it is hard to tell when the peritoneum has become infected. Again, especially if we do not know the history of the case, the peritonitis completely masks the underlying disease. The symptoms to a certain extent depend upon the degree of infection of the peritoneum which gives rise to Senn's pathological division in his classification. He distinguishes four varieties, (*a*) diffuse septic, (*b*) suppurative, (*c*) serous, and (*d*) fibrino-plastic.[3] We can by no means make out beforehand these distinctions. They really represent different degrees of infection, or, to put it in another way, they represent different degrees of resisting power of the peritoneal membrane. It is for the reason that it is impossible to tell beforehand the condition of the peritoneum, or, to speak in proper terms, the amount of septic invasion of the abdominal cavity, that some surgeons operate in all cases of appendicitis, the commonest source of infection of the peritoneum.

In operations for appendicitis we will find in one case a localized peritonitis, in another case, localized suppuration, and in a third, a general septic peritonitis; and what we do find will often not correspond with what we expected to find. Take a case of pelvic peritonitis. What a variable picture it presents! Some cases with distinct symptoms of marked sepsis readily clear up, and *vice versa;* others, beginning mildly, are followed by sequelæ entailing various chronic conditions which cause a patient to be bed-ridden for weeks and months.

There are many factors bearing on the question of invasion of the peritoneum by bacteria. The peritoneum may be more or less resistant; the particular germ invading the peritoneum may be more or less virulent; the absorption of the bacteria and their products may be rapid or slow; and the quantity of the poison introduced may be little or much.

Abbe says, "Experimental research shows that when a small amount of infectious culture of intestinal bacteria is injected it can be disposed of without fatal effect. A small quantity produces diarrhea, more a local peritonitis, still more a fatal fibropurulent peritonitis, and a larger dose. acute fatal sepsis without peritonitis."[4]

Again, bearing on this question is the individual resistance of the peritoneum. We can all look back and call to mind at least one case of laparotomy in which we could not find any break in the chain of asepsis and expected a speedy recovery, and yet about the third day we saw looming up a direful case of fatal peritonitis. On the contrary, we can remember cases in which we found such conditions as would lead us to expect an infection of the peritoneum, and yet everything went along serenely.

I would turn quickly from this aspect of the subject, as it might influence some one to trust to fate, instead of to asepsis; although it takes the burden off of our shoulders to some extent, to hear what as great laparotomist as Kelly says: "The more we learn of infectious processes, the more are we convinced that the vital resistance of the patient plays an important, if not the greater part in the resistance to infection."[5]

The place or particular part of the peritoneum where the infection occurs often determines the degree of peritonitis or sepsis. If the bacteria enter through the small intestine, so quickly are they disseminated by the free movements of the bowels that there is apt to be a disseminated peritonitis; if the infection is from the iliac fossæ or in the pelvic cavity, there usually develops a circumscribed or suppurative peritonitis. If the infection is due to the colon bacillus, the usual germ found after infections from the alimentary canal, there may be a very virulent or a mild sepsis. Staphylococcus infection is, as a rule, not very virulent, while an infection by the streptococcus is apt to be disastrous.

Treatment.—As peritonitis is a secondary disease, it is self-evident that the primary disease should be treated. If we look upon peritonitis as

[3] MEDICAL NEWS, May 8, 1897.

[4] MEDICAL NEWS, May 29, 1897.

[5] Kelly, Operative Gynecology.

an indication of absorption of micro-organisms and their products, irrespective of the source of their entrance, the treatment necessarily resolves itself into the prophylaxis of sepsis and the elimination of septic products when once introduced. It is to this general aspect of the question of peritoneal sepsis that the remainder of this paper will be limited.

To prevent the entrance of bacteria to the peritoneal cavity when a traumatism is caused, as in abdominal operations, it is essential that surgical cleanliness be maintained. We avoid depressing the vital powers of the patient by dispatch in our work, by the use of heart stimulants, such as strychnine, and general stimulants, such as injections of hot normal saline solutions. We prevent the resisting power of the peritoneum from being lessened by refraining from unnecessary handling and exposure of the peritoneal membrane. Although surgeons do not look upon the peritoneum with such reverence and fear as in pre-aseptic days, still, it should be handled firmly but gently, confidently but not recklessly, as we may need its help to do picket duty against an unexpected assault by some lurking germ.

After operations, if we find conditions that would cause us to be anxious as to subsequent infection of the peritoneum, or if we see signs of infection already beginning, we make use of the intestines to eliminate the poison. It is upon this principle that the newer and best method of treatment, that by catharsis, depends. Hence we use saline cathartics, or, if the stomach is irritable, calomel in small doses. McCosh, for this purpose, injects into the lumen of the bowel at the time of the operation a saturated solution of Epsom salts. In the course of those diseases which furnish avenues for the entrance of bacteria to the peritoneum, the same principle applies as to the use of cathartics. In the treatment of the primary disease before peritoneal sepsis has commenced, or after it has already set in, the question, Shall we give opium to relieve the pain, or shall we give cathartics to relieve the sepsis, will often arise.

Since the causes of peritonitis are better known and the conditions met with better understood—that the danger is not from the amount of the peritonitis, but from the amount of sepsis—the opium treatment has been superseded by the more rational treatment, that by catharsis. Cathartics should be used instead of opium, because we thus eliminate the poison and prevent or lessen tympanites, which may be the most distressing symptom to the patient. Opium was used with the idea of checking peristalsis to lessen the peritoneal irritation, but we know that it locks up the poison as well as the bowels, and increases the tympanites. But there are cases where it requires the courage of one's convictions and, as the laity would say, "hardheartedness," to carry out this line of treatment to its logical conclusion. Suppose one is called to a case of beginning peritonitis from some tubal trouble, the commonest source of peritoneal infection in females. Before any grave constitutional symptoms arise, there may be the most agonizing pain, and it would require an adamantine heart to resist the giving of quick relief afforded by morphine. Yet we believe that much of the long and tedious ensuing sickness and suffering might be avoided by stuffing our ears, as did old Ulysses, and by giving a brisk saline cathartic, instead of listening to the Siren's cries for opium. For the relief of the pain we may get some help from external applications of ice, and internally we may cautiously use some of the coal-tar derivatives. Until the cathartic accomplishes its purpose we might, in some cases, be justified in using hypnotic power.

To get the beneficial effects of cathartics the treatment should be instituted in the very beginning, before the peritoneum has become thoroughly septic. We cannot carry out this line of treatment in perforations of the intestines, as we would be adding fuel to the flames. Here the only treatment of any avail would be to operate and repair the perforation.

Before the operative treatment is taken up, a few words as to general treatment may be said. As a peritoneal infection is very depressing to the patient—we may say, a veritable "solar plexus blow"—we should combat the weakness and keep up his strength by alcohol and the usual stimulants. The tympanites is best relieved by the use of the rectal tube, and I have time and again seen the aspect of a case change for the better after the escape of gas through the tube. One of the most striking cases that now recurs to me was that of a boy operated on for suppurative appendicitis. About the third day tympanites was so marked and the depression so great that it seemed the patient would quickly succumb to sepsis. The tube was passed high up and gas freely escaped, then a copious fecal discharge passed, after a high enema, and the patient immediately got better.

In cases in which the septic products have not been eliminated, but the peritoneal barriers have been sufficient to limit or wall off the septic process—that is in localized abscesses of the peritoneal cavity—a type we see in some cases of suppurative appendicitis, or in collections of pus in the pelvic peritoneum, the indications for treatment are to open and drain. In some of these cases, for fear of breaking up adhesions, we are apt to do too little and leave other foci of infection. This question was so thoroughly and ably discussed by Dr. Gray at our last meeting that I will take up that formidable type of peritoneal infection, called general or disseminated peritonitis, in which the barriers of Nature are swept away by the septic flood.

We may see this type after a perforation of the alimentary canal in which a large quantity of septic material is quickly introduced within the peritoneal cavity, or by rupture of an abscess wall, or, occasionally, after operations, or by extension from a septic uterus. If, occurring after an operation, the patient is so overwhelmed by the poison that we may try to ease our conscience by attributing the death to shock, and we may try to

prove it *postmortem*, as we find but little irritation to the peritoneum. In some cases disseminated peritonitis develops so quickly that the primary disease is completely masked and the patient is often beyond the reach of help by any treatment. We might here use opium as a means of ewthanasia. I saw a case of this quickly fatal type about two months ago. The patient while convalescent from influenza was taken suddenly with cramps. The attending physician, thinking it an attack of acute indigestion, did not feel apprehensive. The next day through stress of work he did not see his patient till five o'clock in the afternoon—about thirty hours after the attack of cramps—when to his amazement he found him in collapse. I saw him at this time and we decided that the alarming peritonitis was probably due to a fulminating case of appendicitis, and that if he responded to stimulants we would operate. But in spite of our efforts he steadily sank and died before morning.

Up to within a few years ago cases of disseminated peritonitis were looked upon as inevitably fatal, but recognizing that if we can open the abdomen in the early stage of the disease and cleanse the peritoneum of the septic products, some cases may be saved, surgeons now feel justified in making this effort, and giving the patient some chance of life. While we may not be able to cleanse every nook and corner of the infected area, we can certainly remove some of the poisonous products, and this is infinitely better than to allow the peritoneal cavity to be literally deluged by the poison.

To get the beneficial effects of this treatment, as we would naturally expect the statistics to show, it should be carried out as early as possible and before the vital powers of the patient are too much depressed. The whole area infected should be cleansed, and gauze drains placed in the iliac fossæ, between the coils of intestines in the pelvic cavity, in the region of the liver and in places where infectious material is concentrated. If there are only small purulent foci these should be sponged off with pieces of gauze wrung out of salt solution; if there are larger collections more can be accomplished by copious irrigations of hot salt solution.

Serum therapy has aided in the cure of this type of peritonitis, and much more may be hoped for when the proper serum can be found and used for the particular case in hand, that is, for each bacterial invasion the corresponding serum can be used.

I can see at no distant day a picture which I will label "Hope Astride Science." In this picture I see a patient on the operating-table, and, although his peritoneum has been invaded by hordes of bacteria, still he has a hopeful expression on his face, so confident is he in the science and skill of the medical men around him. There are five of these men of science, all arrayed in spotless gowns, all working in harmony and with clock-like precision. First is the electro-therapeutist, who turns on the X-rays and marks out the infected area; second, is the spinal anesthetist, who dulls the patient's pain, but not his senses; the third is the family physician, who still looks out for the general welfare of his patient; the fourth is the surgeon, who opens the abdomen, and, while he performs the peritoneal toilet and places the drains, the last man of science, the pathologist, takes his specimen of poison, places it under the microscope, names the germ and applies the proper antitoxin.

Take another picture, drawn from the past; it is called "Despair Lashed to Conservatism." In this picture I see great crowds of young men and women and children and the aged, of all colors, nationalities, and walks of life, but all with the same Hippocratic expression suffused over the whole face except the eyes, which have that ecstatic look given by the poppy; each presses one hand over the right iliac region, and in the other holds aloft a scroll, and on every scroll I see this couplet, printed in red letters:

Peritonitis! the Doctors cried;
Opium, the Doctors plied.

102 Grand Street.

A PLEA FOR THE BETTER APPRECIATION OF THE LIMITATIONS OF OPERATIVE WORK.[1]

BY A. M. CARTLEDGE, M.D.,
OF LOUISVILLE, KY.

AT the outset permit me to say that I fully recognize the risk to criticism one incurs in attempting to define rules for the guidance of the many in a question of such magnitude as the title of this paper embraces. Every surgeon must be his own arbiter in deciding such questions, and the judgment he displays will depend upon his professional learning and wisdom. Yet we are at times led to believe that some otherwise brilliant surgeons are masters in nearly everything connected with our science and art except this very important point. There are many reasons for this. Our advance has been so rapid and the conquest of disputed fields so dazzling that it is natural in some instances that an unwarranted enthusiasm should be developed. Again, short-cut roads to diagnosis are responsible for many unjustifiable surgical operations.

The methods of surgical diagnosis have undergone striking modifications within the past decade and have curiously influenced operative work. The older surgeon made his diagnosis of abdominal and pelvic lesion slowly, the accuracy of such diagnosis depending largely upon his skill, which skill at that time consisted of a delicate sense of touch, trained eye to detect asymmetry, keen ears to differentiate sounds elicited by percussion, and methodical investigation of all symptoms both subjective and objective. The result was, his diagnosis having been made, he next carefully and with abundant time before him considered the advisability of operative intervention. It is true he often found, after exploration, his

[1] Presidential address delivered before the Southern Surgical and Gynecological Association, Atlanta. Ga.

most cherished diagnosis a fancy, but, where the conditions did coincide with his carefully-arrived-at conclusions, he was in position to bring the best judgment to bear in his operative methods. Later, when evolution in surgical diagnosis reached the stage where greater accuracy was demanded, the exploratory incision for diagnostic purposes was inaugurated. The result was that the finer arts, which constituted the personal skill of the older surgeon in diagnosis, from disuse have fallen into atrophy and, I am sorry to say, with some men seem to be lost or, more correctly stated, never have been gained.

Diagnoses made thus rapidly and more accurately had one drawback in that the revelation was so sudden as to place the surgeon in the position where he must decide the question of operative limitation quickly and without the judgment which sometimes comes of more deliberate thought. That this necessity for quick decision has developed rapid mental deduction from a given abdominal condition is attested by the brilliant work of abdominal surgeons in every part of the world to-day; that it also leads to transgression of surgical limitations or possibilities is one of the purposes of this paper to show. Asepsis, by removing the greatest danger in operations, has led to some unwarranted operations which have been little short of unreasonable experiments.

It is as much a part of the knowledge of surgery to know its limitations, or what it cannot do, as to be justly proud and ready to perform that which it has every good reason to believe will be productive of relief and cure to the thousands of unfortunates who seek its aid. From every standpoint there is much to be gained by a better appreciation of our operative limitations. It is a poor balm to our wounded pride and poor solace to the departed one's friends for us to say, "Well, he (or she) would have died anyway from the disease in a short time." We should remember that, while ours is not an exact science, it is daily becoming nearer one and the people, or what we are pleased to call the laity, setting the standard by our brilliant achievements of recent years, practically consider it so now. If we cannot do good, let us avoid doing harm; this is a good rule to guide us in performing surgical operations.

It is not to be inferred that carefully planned work coming under the usual head of experimentation should never be undertaken, for without such originality and boldness in the past, we would not enjoy the wonderful achievements of our science to-day. We would plead for more careful diagnosis with an especial view to the detection of attending visceral disease; in short, to try and become more expert prognosticians.

There are two phases of surgical practice alone, the careful observance of which would reduce the mortality of surgical operations so low as to cause us to believe that exactness had almost been reached. I refer, first, to greater care in the detection of kidney lesions and the institution of measures to correct this frequent cause of unfortunate operative termination, and, second, the still prevalent practice of operating upon hopeless cancer cases. We cannot honestly place the disastrous terminations from these in the category of accidental, unforeseen and unavoidable happenings. I venture the assertion that there is not in this audience a surgeon who, if he reviews his mortality for the past two years, but will find that fifty per cent. of such mortality was from causes that he should have averted, either by displaying the excellent judgment not to have operated upon inoperable cases, or by dereliction in not preparing against a weak point prior to operation. We all detest a surgeon who will operate only on selected cases, avoiding risk to save his reputation—he does not deserve the name of surgeon—but we can go too far in the other direction and in our enthusiasm to relieve humanity give too many so-called "only chances" which as often prove to be "last chances."

In reviewing the field of abdominal and pelvic surgery, it would seem that surgical limitation is most often exceeded and mortality unnecessarily increased in operations for general septic peritonitis, extensive carcinoma of the ovaries, uterus and intestines, and in operations upon the gall-passages in long-continued and profound cholemic patients without adequate preparation.

I beg your indulgence for what may seem a protest against the too-frequent practice of operating in these affections. We have every reason to believe that the advocacy of laparotomy in general septic peritonitis by those high in authority in abdominal and pelvic surgery has led to the performance of this operation by those of less experience in utterly hopeless cases of the disease. It is easier for the experienced surgeon to say at the bedside that a given case is hopeless from any line of treatment, or is a justifiable one for operation, than to describe on paper or by means of discussion, the differential points which should determine action. Every man's experience will ever remain his most impressive guide, and certainly those with little experience in operations for general septic peritonitis must either be impressed with the teachings of those in authority and who have had experience, or their early work will be fraught with a high mortality in this class of cases. I am not prepared to say that cases of general diffused septic peritonitis have not been saved by laparotomy, irrigation and drainage; certainly the reports of such cases have appeared in our literature from time to time; but I am prepared to say that up to the present, the mortality of such operations in exaggerated types of the disease is so great as to make it an unwarranted procedure, I am strongly impressed with the belief that the successful cases reported have been cases of beginning general peritonitis, or of widely extending yet circumscribed peritonitis. We all know the difficulties that sometimes attend the recognition of the extent of the lesion. Given a case where a focus of virulent infection has suddenly emptied its contents into

the peritoneal sac at some point, be it the appendix, a septic tube, or intestinal lesion, if the sepsis has rapidly augmented, spreading to the entire peritoneal covering, characterized by no adhesion of limitation, manifesting itself objectiveiy by a pulse-rate of 140 to 160, great abdominal distention, paresis of the intestine from toxemia and gas which precludes the possibility of attaining results from purgation, and the destruction of abdominal breathing, I do not believe that any surgical operation which has for its purpose the administration of an anesthetic, opening the peritoneal cavity with its subsequent drainage, can be other than productive of the greatest harm and hasten the usual disastrous termination.

In reply to the argument which may be made that if two such cases out of a hundred can be saved by this procedure, it would still be justifiable, I would say that a painstaking observation of a great number of these patients has led me to believe that probably five per cent. would be saved by Nature aided by such measures as sustaining the patient's heart, the free use of saline infusions, etc. Of course we recognize that the question will ever arise as to the accuracy of the diagnosis. And here, again, I must say that we have our experience at the bedside to assist us in this decision; but of one thing we feel sure, and that is that we have all in the past operated upon many of these cases that were hopeless, that we have thus swelled our mortality list and, to that extent, have brought surgery into disrepute.

Much might be said by way of elaboration in differentiating the operable and inoperable cases of septic peritonitis. Certainly we are often able to save patients with a beginning diffused septic peritonitis, and it is in distinguishing how far the case has advanced, whether or not it has transgressed the operative stage, that our wisdom is asked to decide.

It seems pertinent to suggest that in general septic peritonitis we should pay especial attention in deciding for or against operation to the following points: The duration of the disease and the condition of the intestinal tone. Cases of diffused septic peritonitis of more than eighteen hours' duration do not promise any relief from operation. Cases of diffused septic peritonitis where careful auscultation and other tests show that the vermicular action of the bowel has been lost promise nothing from operation. I have found a most excellent working rule in these cases to be as follows: If we cannot move the bowels before operation in cases of diffused peritonitis, we will never be able to move them afterward.

It would seem opportune for us to institute a careful scrutiny of our work in the fields of uterine, ovarian and intestinal carcinoma. These, especially the former, constitute a large part of the work that we are called upon to do, and, while a paper dealing thus generally does not permit of going into the details of this particular subject, certainly we have exceeded our surgical limitations in operating upon inoperable cases of cancer, especially of the uterus. Unless we approve of removing the uterus for cancer as a palliative measure, which is of doubtful propriety, there are few cases of uterine carcinoma in which we can hold out any promise of non-recurrence to the patient by radical operation. There will probably be a time when we will see a larger percentage of co-called favorable cases. The results of operative intervention will then be more promising; but the practice in many quarters of removing carcinomatous uteri where the disease has extended widely into the pelvis, the pelvic glands, and frequently to both the bladder and rectum, can have but one effect—if we are honest in our statistics—and that is to increase our mortality unnecessarily, for there must be a mortality in these cases although it be small.

The same is true of attempts at removal of double ovarian carcinoma where the broad ligaments and frequently the peritoneum are involved. It seems that many of these patients could be spared even the minor danger of exploration if we would exercise greater care in our method of diagnosis.

Perfect scientific honesty demands that we should pursue but one general plan in deciding upon an operation for carcinoma situated anywhere in the body, and that is, if it be not possible to extirpate it entirely and radically, not to attempt radical operation at all.

Before closing these desultory remarks I wish again to impress upon the members of this Society the great importance, as a means to lessen mortality, of carefully preparing cholemic patients before subjecting them to operation. We all known that patients suffering from long-continued and profound jaundice are undesirable surgical subjects. We are not warranted in subjecting these patients, whose kidneys and often hearts have become diseased from long-continued circulation of bile in the blood, to an operation until we have instituted measures now in our possession which gradually relieve these complications and increase the chances of their recovery fully fifty per cent. I refer in this connection to the systematic use of the normal salt solution for a period varying from one to three weeks prior to operation.

Another class of patients amenable to the same course of preliminary treatment are cases of inefficient renal action. We are not justified in performing a serious surgical operation upon a patient with impaired kidney action if there is time to overcome such deficiency by the use of salt solution beforehand. The observance of this practice would probably reduce the mortality in our entire surgical work very close to one per cent.

While I have probably told you nothing new and nothing that you did not already know, if I have succeeded in impressing you with the observance of some points in practice that have seemed to me to be places which need mending and which will do most to lessen mortality, I will feel that the effort has not been in vain.

THE ETIOLOGY OF MELANCHOLIA.

BY H. H. STONER, M.D.,
OF HIGHMORE, S. D.

INASMUCH as post-mortem examination of the cortical cells of the brain taken from those who have died from melancholia has failed to throw any light whatever upon the pathological processes which underlie this form of mental alienation, any suggestion which may lead toward a solution of this problem should receive attention commensurate with the logic presented.

That the cortical cells, or, more correctly speaking, the psychical neurons, *viz.*, the pyramidal cells, the Golgi cells, the Cajal cells, the Martinotti cells, and the polymorphous cells are the agents which receive and interpret the distressing sensations cannot be denied. The question is, however, Is a diseased condition of these neurons the primary cause of the disorder, or do they in this disease functionate normally, correctly interpreting the sensations which are poured in upon them from nerves whose origin is outside the cerebrospinal axis? To assert the latter may at first thought seem as preposterous as it is bold, but a little careful scrutiny, I believe, will divest it of many of its apparent absurdities.

All must agree that the quality of a sensation is dependent upon the kind of stimulus which induces it, and that the sensation arises in consequence of the disturbance of the cortical cells of the cerebral hemispheres. The stimuli caused by the tickling of a feather and the stab of a knife on any specified point of the skin are received by the same set of psychical neurons, yet how differently are the two sensations interpreted! It must be admitted that in each instance the brain cells repond normally to the stimulus. Not because the knife-stab produces acute pain could it be said that the psychical neurons were acting disorderly. If a certain form of stimulus produces pleasure and another form produces pain, can it be asserted that the former represents a normal and the latter an abnormal activity of the cortical cells? If they act at all, they must, as far as they go, act normally. I do not mean to say that, if a single group of cells responds to a stimulus, all its related associates necessarily respond normally. What I mean is that if a group or cluster of cells responds at all to a stimulus, it can only respond in one way, the result of which gives rise to a sensation or a conscious state, and this, in itself, must necessarily be normal. The question of associated ideas is here left entirely out of account.

Now, if this be true, a patient may pass through a siege of melancholia from the moment of its inception until the time of his death without any pathological changes whatever having taken place in his psychical neurons. His mental apparatus might go on throughout the whole course of the disease correctly interpreting the sensations which overwhelm him.

From whence, then, emanate the stimuli which give rise to these painful sensations? The answer, I believe, is to be found in tissue metabolism. Melancholia is preeminently an emotional disease and the emotions arising therefrom are invariably of a painful character. Now, if it can be established that the metabolic process is answerable for the normal emotions, I believe we may have the foundation laid for the solution of the so-called abnormal emotions attendant upon melancholia. Let us, then, briefly study the cause of the emotions.

Every one is familiar with the fact that a direct relation exists between the vegetative functions and the manifestation of the emotions. Take, for instance, the drying up of the salivary secretion attendant upon a confused state of the mind; the inhibition of the lacteal function as a result of madness; the increased urinary secretion attending a state of expectancy; the sweating of perplexity, the tears of sorrow, the blush of shame, and the pallor of fear. These and many other like phenomena go to prove indubitably that the emotions and the metabolic process are intimately related. More than this, the evidence seems conclusive that the emotions are wholly dependent upon the vegetative functions.

The sympathetic nervous system presides over the organs of vegetative life. They consist of both motor and sensory neurons. They convey motor impulses to the tissues and transmit sensory stimuli back to their reflex arches and to the cerebrospinal centers. By this means the normal balance of metabolism is preserved. A surfeit of blood in an organ sets up a stimulus which, being conveyed centralward over the sensory sympathetic neurons, passes over the reflex arch which unites them with motor sympathetic neurons and back again to the tissues whence the stimuli originally arose. Such a stimulus has the effect of constricting the walls of the blood-vessels and so thereby diminishing the supply of blood to the part. On the other hand, an inadequate supply to the part produces a stimulus, but of an entirely different character; this stimulus, when reflected back to the walls of the blood-vessels, produces a dilatation of their walls and permits an extra supply of blood to be poured into the tissues. Both a constricting and dilating kind of stimulus passes over the same set of sympathetic neurons, just as a pleasing and a painful stimulus passes over the cerebrospinal neurons. It is the character of the stimulus and not the kind of neuron which produces the phenomena of dilatation or constriction of the walls of the blood-vessels. This is much more rational than the theory that the vasomotor sympathetic neurons are composed of two functionally different sets—vasoconstrictors and vasodilators, and that the former responds to only one kind of stimulus and the latter to another.

In the ordinary functioning of the sympathetic system these stimuli pass over the reflex arches and back to the tissues without falling upon the psychical apparatus, and, hence, no sensation arises in consequence therefrom. But if these sympathetic neurons be charged with a stimulus

beyond their capacity of reflecting over the reflex arches, the surplus must switch off to the cerebrospinal system and reach the psychical apparatus. Here this peculiar form of stimulus produces a sensation utterly different from that produced by stimuli carried in over the cerebrospinal system. It is of an entirely different character. The sensations incident to such an impulse we call an emotional feeling. Emotions arising primarily from the tissues are, however, pathological. The normal emotions have quite another origin. They follow as a result of intense impressions conveyed by the cerebrospinal sensory neurons to the psychical apparatus which, overflowing, pass out over the vasomotor sympathetic system to the tissues and there produce the metabolic effect, which upon being retransmitted back to the brain by the sensory sympathetic neurons is there translated as an emotional feeling. We assume that a stimulus which enhances the metabolic process gives rise to a pleasurable emotional state, while one that inhibits it produces an emotional feeling of distress.

Now, it follows with a directness that cannot be questioned that if, in tissue metamorphosis, *destructive* metabolism is not adequately balanced by *constructive* metabolism there must arise, in consequence, a stimulus identical with that produced in the normal state by an inhibited flow of blood to a part. That is, there must follow a painful emotional state. This, I infer, is the pathological condition which prevails in melancholia. Every symptom is indicative of disturbed metabolism; the slow heart, the coated tongue, the torpor of the secretory organs, insomnia, loss of motor energy, and general debility. It is noteworthy in this connection that patients suffering from melancholia have been previously enfeebled by a long-continued sickness, defective digestion, inadequate or improper food supply, bad hygienic environments or some of the forms of anemia. No matter what may constitute the primary causative factors, any condition which materially interferes with normal constructive metamorphosis is sufficient to set up the metabolic stimulus—the cry of the starving tissues for better nourishment.

But, it may be asked, if the psychical apparatus passes through unscathed, how are we to account for the terrible mental depression which is so pathognomonic of the disease, and how are we to explain the delusions which so often accompany it? The explanation of the mental depression is to be found in the fact that the patient's mind is wholly absorbed with the painful emotions which fill his bosom. If left to himself outside stimuli are incapable of finding their way into the precincts of his brain; he is so completely overwhelmed by the painful emotions emanating from the tissues of his body that his entire mentalization is concerned with this, and this alone. He can, however, be momentarily aroused from his state of misery, and it will be found that when his mind is diverted from his state of introspective wretchedness it is capable of reasoning logically and of arriving at correct conclusions. When again left to himself, however, his mind becomes completely swamped in the painful emotions which pervade it. The psychical cells are not at fault; they correctly interpret the sensations which are thrust with such awful force upon them. However, if the tide of painful stimuli be momentarily turned aside, they will be found to respond as readily to other forms of stimuli as they do to those of a painful emotional nature.

It need scarcely be remarked that the delusions of melancholia are only memory pictures which are recalled by the character of the incoming stimuli. As these latter are of a painful nature, so must the memories recalled necessarily be of the same character. The vividness of these pictures, like that of dreams, is occasioned by the fact that the mind being concentrated upon the one theme of misery, the psychical neurons not implicated in this mental process fall out of functional relation with each other, and a train of consecutive reasoning is utterly out of the question. Association of thoughts cannot be accomplished, so that when the neurons constituting a group, say in the auditory center, are by any means approximated, if the associated groups belonging to it are not also consecutively brought into functional relation so that a train of reasoning may be followed out, the impression will stand out as a bare auditory sensation, and a voice seems to whisper or shout into the ear.

The seat of the normal emotions appears to be located in the chest for the same reason that common sensory impressions are referred to the site at which the nerve is stimulated. The heart and lungs are the central bureau to which the whole economy appeals when in need of assistance; they, in consequence, stand the brunt of the whole metabolic process. The greater part of the stimuli which is translated into emotional feelings, therefore, emanate from these organs, and the sensation is, accordingly, referred to that locality. Victims of melancholia, if they are able to correctly interpret their feelings, refer the seat of their misery to the thorax. I have under my care at the present time an exceptionally intelligent lady who is suffering from this disease. She tells me that the source of all her trouble seems to be in her chest. Upon awakening in the morning, the first sensation she receives is an awful feeling of despair which seems to well up, like a specter, from her bosom.

The successful treatment of melancholia, while it is purely empirical, goes far to prove the validity of the theory here advocated. The only form of treatment which offers any hope of success is one tending to reestablish the normal balance between destructive and constructive metamorphosis—rest, tonics and good, assimilable, wholesome food are these agents and a careful study of the physiological balance sheet will point the way to the best way of accomplishing results.

MEDICAL PROGRESS.

The Fundus of the Eye in Kidney Disease.—The use of the ophthalmoscope in kidney disease is secondary in importance only to the examination of the urine, and the information obtained is frequently of far greater prognostic value than that gained in any other way. E. JACKSON (*N. Y. Med. Jour.*, July 27, 1901) says that of 419 cases reported by Belt seventy-two per cent. showing retinal changes due to nephritis were dead within one year and ninety per cent. within two years. A little practice will enable any physician to detect important changes. A brief mydriatic, such as cocaine or homatropine, one-fifth of one per cent., is usually needed. The changes are more marked around the macula or, at least, are more characteristic at that point. The veins are dilated and tortuous, other parts of the veins being frequently hidden in a swollen hazy retina. Next, hemorrhage may be found anywhere in the retina. Swelling and opacity of the retina are usually confined to patches. White spots arise from fatty degeneration and are most characteristic when arranged in rows radiating from the macula.

The Veldt and Natal Sores.—V. BISHOP HARMAN (*Lancet*, July 13, 1901) says that the Veldt sore is a vesicle forming in the stratum lucidum of the epidermis. Cultures from the serous discharge yield a most interesting diplococcus. It is distinctly thermophylic and extremely resistant, flourishing at a temperature of 110° C., dry heat, and developing luxuriantly after being soaked in a 1-1,000 bichloride solution. The sore is found only in the tablelands of South Africa. Twenty per cent. of the British troops were affected and, strangely enough, the mounted men suffered in twice the proportion to those on foot. It affected the Boers also, but not to the same extent as the British. The Natal sore differs in that it occurs only in swampy districts and affects the derma. Both in film and culture preparations it yields in every case a typical staphylococcus pyogenes aureus.

Septic Endocarditis.—H. LENHARTZ (*Münch. med. Woch.*, July 9, 1901) describes septic endocarditis as that form of valvular inflammation which is caused by specific pathogenic bacteria. The most important of these are staphylococci and streptococci, and, less frequently, pneumococci and gonococci. All cases may be roughly divided into two groups, (1) that in which the endocarditis is merely part of a general sepsis and (2) that in which its symptoms exceed in severity those of other lesions which may be present. The first group admits of a subdivision into two classes according to the vegetations forming delicate or voluminous masses. Auscultation will usually betray the latter condition, but may easily fail to reveal the former. Of 38 cases observed by the author 20 were male, 12 occurred between the twentieth and thirtieth year, and in 18 the mitral valve was affected. The disease lasted a period varying from four days to seven months. It is the more chronic cases which require special attention, since it is not generally known that septic endocarditis may run so protracted a course. In 12 of the cases, an old endocarditis was present, yet in 2 the acute process spared the chronically inflamed valve. Etiologically considered, 7 cases followed the introduction of catheters and bougie or other urethral manipulation, 5 cases developed during the puerperium, 4 after a gonorrhea, and 5 secondary to a croupous pneumonia. In 2 cases respectively an angina and a cholecystitis with pylephlebitis were looked upon as the cause. Twenty-eight cases were examined bacteriologically during life and after death with the following result: The staphylococcus was found 8 times, the pneumococcus 6 times, the streptococcus 10 times and the gonococcus once. Only one variety of germ was found in each individual case, and in the more chronic ones repeated blood-examinations disclosed the same germ, generally in increased numbers. Great stress is laid upon the value of the bacteriological examination, since by it alone can it be decided whether an endocarditis is septic or rheumatic, *i. e.*, dependent upon some germ which has as yet eluded detection, since all blood-examinations in these cases have been absolutely negative. The clinical picture of the more chronic forms in general is a uniform one; the disease rarely begins with a chill, but usually insidiously with a prodromal stage, with malaise and pain in the bones and joints. Anemia, cachectic appearance, cardiac murmurs, enlarged spleen and considerable fluctuations of temperature, with chills, develop when the malady has had a good start. The temperature is subject to considerable variation. Some patients never experience chills; in other cases they are of quotidian occurrence, and in still others they are entirely erratic in their appearance. Even with far-reaching destruction of the valves a murmur may not be apparent. The question as to whether there is a malignant rheumatic endocarditis, *i. e.*, an endocarditis with negative bacteriological findings and severe and fatal course, the author answers in the affirmative. In a general way streptococcus endocarditis gives an intermittent and staphylococcus endocarditis a more continuous temperature curve, while with pneumococcemia and gonococcemia an irregular, highly remittent and intermittent type prevails. The prognosis is serious, but not hopeless, and the problems which the treatment offers have not yet been solved despite the various sera.

A New Form of Narcosis.—B. KORFF (*Münch. med. Woch.*, July 16, 1901) has tried Schneiderlin's method in 80 cases as follows: At 7 o'clock in the morning the patient is allowed a fluid breakfast consisting of milk, tea or coffee. At 8:30 the first dose of scopolamin,

0.0004 gm., and morphine, 0.01 gm., is given. This is repeated at 10:30. If necessary, a third dose is administered at 12. One hour after the second or third dose, the operation is begun, sometimes with the aid of a few drops of chloroform. The method on the whole gives satisfaction in adults, children and the aged, and is only rarely followed by untoward symptoms.

Home Treatment of Tuberculosis.—As soon as the diagnosis of pulmonary tuberculosis is made it is now generally considered necessary that the patient should go to the mountains. In many instances this is impossible and is certainly a great hardship to a large number. I. H. HANCE (*N. Y. Med. Jour.,* Aug. 10, 1901) insists that by careful attention to the three fundamental needs of the patient, fresh air, good food and rest, many modern homes can be used successfully as places for treatment for tuberculosis. Fresh air is required every day and every night, the more the better. At least one window should be open the year around. For summer, tent life night and day is the ideal one. Minute directions must be given in regard to the regulation of fresh air. Overfeeding is the principle to act upon in all cases, whether feverish or not, whether incipient or advanced. Rest should be absolute in all febrile cases and fatigue should always be avoided. Exercise should be under the control of the physician and carefully watched. The wearing of proper clothing and hydrotherapy are very important adjuncts in the treatment. The necessity for climatic changes is thus frequently and successfully avoided.

Injections of Iodo-Mercuric Cacodylate in Syphilis.—The effects of hypodermic injections of this preparation have been studied in 31 cases of secondary and tertiary syphilis by L. BROCQ, CIVATTE and FRAISSE (*La Presse Méd.,* July 17, 1901). Treatment was commenced by daily doses of ½ grain, and when necessary the dose was doubled. The needle was thrust perpendicularly into the buttocks, giving in reality an intramuscular injection. Grave and rebellious cases were selected, most of which had resisted other forms of mercurial treatment. Satisfactory results were obtained in twenty-four cases. Important failures occurred, notably, in cases of grouped papulo-squamous syphilides. The treatment is said to be contra-indicated in the following cases: (1) Predisposition to pigmentation of the skin; (2) in tuberculous patients having a tendency to pulmonary congestion or hemoptysis; (3) where gastro-intestinal disturbance occurs. Among the advantages of iodo-mercuric cacodylate, the following are stated: (1) It may be prepared in aqueous solution, sterilizable without danger of decomposition, and miscible, without precipitation, with blood-plasma; (2) subcutaneous administration of such solution produces little or no pain and no abscess; (3) excellent results are obtained in cases of pronounced syphilitic malnutrition, emaciation and neurasthenia, in cases of rebellious mucous patches and ulcers, in the presence of seborrheic complications, and in most cases of tertiary syphilis.

Test for Lactic Acid.—The presence of lactic acid in the stomach contents is very suggestive of carcinoma when a test meal has been given. An easy and reliable method of testing for this acid is given by M. I. KNAPP (*N. Y. Med. Jour.,* Aug. 10, 1901). A weak solution (1 to 2,000) of ferric chloride and some ether are required. To one cubic centimeter of filtered gastric juice five centimeters of ether are added, shaken and allowed to stand. To a few centimeters of the iron solution, which is practically colorless, are added several drops of the ether extract, and if lactic acid is present a canary-yellow color will result.

Sclerogenic Treatment of Cancer.—The history of a case of cancer of the breast treated by injections of a 5-per-cent. solution of zinc chloride is related by P. COUDRAY (*Jour. de Med. de Paris,* July 21, 1901). The first injection was made in November, 1891, a second in March, 1892. At these times the solution was injected not only into the breast itself, but into and about the axillary lymph-nodes, which were enlarged. Five years later the breast was atrophied, presenting a vague nodule surrounded by adipose tissue. Nine years after the primary injection there was still no return of the tumor. During the past few months a recurrence has been noted; there is now present a scirrhous growth, adherent to the skin, showing a tendency to ulceration, and accompanied by enlarged axillary nodes. Coudray believes that the growth of cancer may sometimes be arrested for a long period by sclerogenic treatment, and that this arrest is due to the obliteration of lymphatic spaces and vessels.

Propagation of Yellow Fever.—Probably the most valuable contribution to the science of medicine during the past year is the conclusive proof that yellow fever is transmitted from one patient to another by means of the mosquito. Formerly the chief means of communication was thought to be through fomites. J. C. Nott in 1848 was the first to suggest that an intermediate host was necessary to the spread of yellow fever. Full credit for the mosquito theory must be given, however, to C. J. Finlay, although positive results could not be obtained by him. During the past year W. REED (*Fed. Rec.,* Aug. 10, 1901) of the United States Army has conducted a series of most valuable experiments and the results are most reliable and conclusive. At Camp Lazaer, near Quemados, Cuba, one building was erected in which a large quantity of fomites from fatal cases of yellow fever were placed and several persons compelled to remain in the building, which was poorly ventilated, for several weeks without developing any symptoms of disease. Another building was erected, sanitarily clean in every way, surrounded by fine netting and divided into two parts by fine netting also. In one part several *Culex* mosquitoes were placed after they had bitten yellow fever patients and in the other non-immune persons were quarantined. None of these people developed any disease in the

non-infected apartment. The men were then exposed to the mosquitoes, but no results were at first obtained, probably on account of the short interval elapsing from the time of contamination of the mosquito to the day of inoculation. The first positive result was obtained upon a volunteer who was bitten by five mosquitoes which had been previously contaminated, as follows, two fifteen days; one nineteen days, and two twenty-one days. Three days and nine and one-half hours afterward he developed a well-marked case of yellow fever. Several other men were similarly inoculated during the next few weeks and all but two had attacks of yellow fever, beginning from three to five days after being bitten. An important point was settled by experiment with another brave volunteer who was bitten by fourteen mosquitoes on the fourth day after they had become contaminated. The result was negative. He was again bitten on the eleventh day without effect. On the seventeenth day after their contamination he was again exposed to the mosquitoes and on the fourth day thereafter developed a severe attack. Other patients were inoculated by bites from these mosquitoes on their fifty-first and fifty-seventh day of contamination thus showing the length of time during which their bites are dangerous. Four patients were also inoculated by subcutaneous injections of blood taken from those suffering from yellow fever.

Carbon-Disulphide Poisoning in India Rubber Workers.—Two laborers, whose work exposed them to the vapors rising from a vat containing carbon disulphide used in vulcanizing rubber, presented themselves to E. MENDEL (*Berl. klin. Woch.*, July 29, 1901) with symptoms of extreme muscular weakness in forearms, hands and legs. Examination showed muscular atrophy in the distribution of the median, ulnar and radial nerves with partial reaction of degeneration. The absence of tenderness along the course of the peripheral nerves and the lack of disturbances of sensation excluded a neuritis. The clinical picture corresponded more closely with disease of the anterior cornua of the spinal cord. It has been experimentally shown, however, that carbon disulphide is capable of producing disease of almost all parts of the nervous system, and its etiological significance must be remembered in the diagnosis and treatment of nervous disorders in individuals exposed to its action.

Cause and Treatment of Gout.—The theories in regard to the cause of gout are constantly becoming more numerous and many of them are extremely unsatisfactory and unreasonable. The idea of auto-intoxication is offered as a starting-point of so many diseases at present and the intestinal tract has very properly been held responsible for numerous derangements and constitutional diseases. W. R. GORE (*Indian Med. Rec.*, July 10, 1901) believes that gout is not due to the presence of uric acid in the blood, but that the symptoms result from the presence of a toxin which is formed by one of the intestinal bacilli on an intestinal secretion specifically altered by the diet. The object of the treatment, therefore, consists of the selection of a proper diet which will be quickly digested, the refusal of alcohol in any form during treatment and careful attention to the condition of the bowels. The action of two drugs, colchicum and lead, which seem to have a specific influence upon the disease is offered to confirm the theory. Colchicum acts by increasing the secretion of the intestines and may cause some change in the constituents of the secretion. Lead causes a contraction of the blood-vessels of the intestine, decreasing intestinal secretion and favoring gout. The author believes that when gout is treated as due to a toxin caused by intestinal derangement the results are much better than when treated in any other way.

Tabes Dorsalis in Women.—In a series of cases of locomotor ataxia observed by P. FEHRER (*Berl. klin. Woch.*, July 29, 1901) the initial symptoms were as follows: Lancinating pains, 13 cases; weakness in legs and back, 10 cases; headache or dizziness, 8 cases; paresthesia, 6 cases; loss of visual power or diplopia, 5 cases; gastric crises, 5 cases. During treatment the symptoms occurring were, in the order of frequency, disturbances of sensation (92 per cent.), lancinating pains (85 per cent.), loss of patellar reflex (83 per cent.), Argyll-Robertson pupil (76 per cent.), Romberg symptom (71 per cent.), ataxia (55 per cent.), disturbance of bladder and rectum (50 per cent.), gastric crises, inequality of pupils, paresthesia, headache, vertigo, girdle sensation, weakness of extremities, ocular paralyses, optic-nerve atrophy, cardiac neuroses, psychical disturbance, diplopia, laryngeal crises. In the treatment of these cases, antisyphilitic remedies and silver nitrate were practically without result. Amelioration of symptoms was obtained in one-half the cases by exercise and regimen.

A Case of Latent Renal Lithiasis.—A patient of sedentary habits, whose previous history included nothing of interest beyond occasional vague lumbar pains, became suddenly ill, complaining of general lassitude and headache. Physical examination was negative. The urine gave a very faint reaction to the cold nitric-acid test for albumin. There were no definite symptoms of nephritis. Three days later intense lumbar pain developed, with frequent desire to urinate; the lumbar pains persisted. At the end of a week respiratory difficulty, increased rapidity of pulse and galop-rhythm were present. During the night a syncopal attack developed at stool. Slight pyrexia, obscuration of the visual field, cramp-like pains in the legs, intense frontal headache, feeble, rapid pulse, increasing albuminuria, all followed in rapid succession. Sudden death occurred on the ninth day. More than 500 calcium-oxalate calculi were found at the autopsy by DESSIRER and LEGRAND (*La Méd. Moderne*, July 17, 1901). The pelvis, calices and collecting tubules of both kidneys were filled with these concretions. The kidneys themselves had suffered from marked sclerosis.

Cholelithiasis as a Cause of Gastric Disease.—Among 102 cases of benign gastric disease treated surgically in the Heidelberg clinic 12 cases were regarded by PETERSON (*Wiener klin. Rund.*, July 21, 1901) as positively and 5 cases probably due to cholelithiasis. The symptoms were caused by pressure of the enlarged and stone-filled gall-bladder on the duodenum, by injury of the duodenum by a perforating calculus, by pericholecystitis with or without perigastritis, or by the pressure of a large stone situated in either the cystic or common duct. These produced compression or twisting of the duodenum, cicatricial contraction, and band-like adhesions. The classic symptom is stenosis of the pylorus or duodenum; gastralgia occurs at times. Perforation or thrombosis may cause hematemesis. Obstruction may be followed by a loss of free hydrochloric acid and the appearance of lactic acid; the diagnosis of carcinoma is often made. The secondary gastric changes may demand gastro-enterostomy. In any event it is essential to break up adhesions, to remove accumulations of gall-stones, and to provide a free passage for hepatic secretions.

Pneumobacillus and Purulent Cerebrospinal Meningitis.—Up to the present time this bacillus has been found in only a few cases of purulent cerebrospinal meningitis. K. JASSNIGER (*Ctblt. f. Bäk.*, July 12, 1901) cites a case occurring in a patient, sixteen years of age, who was suddenly taken ill with chills followed by a perminent rise of temperature to over 101° F. There were present uncontrollable vomiting, intense headache, general muscular pains, profuse perspiration, irregularly contracted pupils and incontinuance of urine and feces. Coma supervened and death took place on the seventh day. The clinical diagnosis was cerebrospinal meningitis and upon autopsy the characteristic pathological lesions were found. A cover-slip preparation of the meningeal pus stained by methylene blue showed both intra- and extra-cellularly a short, round bacillus, sometimes occurring in pairs. The twenty-four-hour bouillon growth showed a general diffused clouding with pellicle formation. Agar cultures showed a white surface growth and gelatin plates small, round, opaque colonies. Stab cultures in gelatin after forty-eight hours' growth showed a typical development along the line of inoculation. No coagulation was produced in milk. Glucose was fermented. Gram's strain was not retained. The organism was pathogenic for mice in twenty-four hours by intraperitoneal inoculation, capsule bacilli being obtained from their heart's blood. He therefore regards the organism found as identical with Friedländer's pneumobacillus.

Action of Alcohol on the Heart.—New researches are contributed by L. HASKOVEC (*Arch. de Med Experimentale*, July, 1901) who has pursued experimental investigations along this line upon dogs. Small doses (5 c.c. of a solution of 7 parts of alcohol to 25 of water) produced upon intravenous injection a distinct rise in the blood-pressure lasting from six to eight seconds and in some cases even longer. The same result is observed when one has poisoned the peripheral vagus nerve with atropine. Hence he thinks that alcohol acts directly upon the heart, in small doses causing it to produce more work. In such doses it is a stimulant. The greatest increase in the number of pulsations is met with in the state of chronic alcoholic poisoning, probably due to the increased muscular activity and general physical condition produced.

Anthrax; a New Mode for Its Distribution.—There is every reason to suppose that if anthrax is gaining such a foothold in Scotland as one would be led to believe from a discussion of a number of cases by ALEXANDER SCOTT (*Brit. Med. Jour.*, July 20, 1901) there is a good prospect that the general practitioners will come in contact with cases sooner or later. As would be expected, all those cited in this paper occurred among the ill-nourished workers in horse hair. The British veterinary regulations are so efficient as to have secured a total immunity from anthrax to these operations. Very recently, however, due to the importations of Chinese, Siberian and Russion hair, anthrax has broken out in almost epidemic form in the neighborhood of Glasgow. The diagnosis of these cases has in a number of instances proved difficult and has been sadly delayed by the fact that many of them have been on the gastric or pulmonic form in which the symptoms are closely marked and are at best subjective. It is a curious fact that in these varieties of the malady, no large development of the organism takes place in the blood till just before or just after death. The prevention of this disease is not, according to this report, as easy as it might seem. It is ably considered under the following three heads: (1) The dust; the germs are more easily disseminated in the dry state, hence it is of paramount importance that the hairs be kept as wet as possible. (2) The germs; with the vegetative form there is no difficulty, since a temperature of 50° C. for ten minutes destroys it; the spore, however, is next door to salamandoid in its relation to heat; indeed, there is no known process by which it can be destroyed when contaminating hair without the use of agents which work serious damage to the host. The excessive steam pressure necessary to kill the spores cause each hair to curl up at the ends and become utterly inelastic and useless. (3) All hair should, however, be boiled for thirty minutes. If this be done in a two-per-cent. solution of potassium permanganate and if the hair be subsequently bleached by a three-per-cent. solution of sulphurous acid, the author feels that a great deal can be done toward rendering this lithal Asiatic hair harmless. The crying need for immediate action is self-evident. Suppose even that spore-bearing hair finds its way into cushions without infecting any body at the primary handling, there is no reason to believe that they may not kill the innocent who shakes them loose ten to twenty years later.

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SATURDAY, AUGUST 17, 1901.

DUST AND CHILDREN'S SUMMER DIARRHEAS.

THE summer death-rate in children is always highest, not during the first hot spell when adults as a rule suffer the most, but later in the season after the heat has weakened resistive vitality, so that the end of the month of August usually furnishes the worst statistics in infant mortality. It is well known how sensitive to even slightly noxious agents are the delicate intestinal tracts of infants who have had an attack of gastro-intestinal disturbance early in the summer. If such children are to be saved from the dangers of the summer later on the most careful precautions must be exercised with regard to the admission of even the slightest amount of infectious material into their digestive tracts. It is to be supposed that proper safeguards are taken with regard to their food and drink. Water that may be perfectly innocuous for adults or even children of a larger growth may well contain non-specific germs that will affect the sensitive stomach and bowels of delicate infants. No matter how healthful the water of a locality, it should always be boiled for young children and should not be allowed to stand in open vessels before being used. This precaution is all the more important if, as so often happens, families are not at home for the summer, but are using water the condition of which they know nothing.

Digestive disturbances in children are usually due to crude imperfections in diet or easily recognizable violations of sanitary regulations. Not infrequently, however, it is impossible to determine what has been the active agent in the production of diarrheic disease in a given case. Under these circumstances there is a growing tendency to consider that dust and its attendant dangers have had something to do with the production of the affection. The exposure of food materials destined for children to the chances of dust infection, especially after their preparation is complete, is of course wanton negligence. There are other risks, however, that are not so readily recognized. The use of dusty drinking utensils would be unpardonable, but the danger of contamination of the child's hands and person and the conveyance of infectious material to the mouth in this way has not been generally sufficiently considered. It may seem far-fetched and finical to take serious account of a so apparently trivial source of infection, but infantile health is dependent on the minutest precautions. The triviality of the cause at work will not be insisted on by those who remember how soon and how seriously lead-workers who fail to be cleanly are affected by their occupation. Clean hands mean for workmen, who are not extremely susceptible to the influence of lead, comparative freedom from the symptoms of plumbism. In this case there is question, not of extremely active living toxic principles, but of the gradual accumulation of a comparatively inert metallic substance. The patient in one case is a healthy adult, in the other a delicate child, so that the question of clean hands can be readily understood to be of very serious importance.

Perhaps in nothing has Christian science deservedly incurred more blame than in its treatment of the ailments of children. Sanitary regulations, the value of which has been learned only by costly experience in infant mortality, are calmly set aside because they are a recognition of the existence of evil in the world. The recent declaration of a healer on this subject seems worth quoting, because it emphasizes by contradiction the measures that are most necessary for the preservation of infantile health during the summer weather. "The condition of the stomach or bowels," she said, "and its food and clothing are of no serious moment to your child. The daily ablution of an infant is not more natural or necessary than to take a fresh fish out of

water and cover it with sand once a day that it may thrive better in its natural element." This represents the very acme of delusional absurdity. Such an opinion makes still more striking a recent expression with regard to Christian scientists by a writer in the *North American Review*. He says that the adherents of Eddyism illustrate better than ever before in history "how near the verge of insanity persons may wander and still retain financial ability."

After the care of the child's food the most scrupulous care for its personal cleanliness constitutes the best safeguard against the development of gastro-intestinal disturbance. After every outing and before every feeding the infant's hands and face should be cleansed conscientiously. The dangers of contamination by dust particles that cling to the hands and face to find their way eventually into the mouth are by no means so negligible as might be imagined. In the course of prophylactic progress that has become so marked a feature of medical advance in recent years this factor in pathogenesis must be taken into account if we are to continue our reduction of infantile summer mortality and not merely be satisfied with what has been accomplished.

FREE PUBLIC BATHS.

Reading in the head-lines of one of the recent daily papers, "New Jersey Farmers Get Their Yearly Bath," one may be inclined at first sight to yield the smile which the writer hoped to win. A second look shows that the article merely recounts the celebration of the annual "Big Salt Water Day" by the farmers near the New Jersey coast and their antics upon the occasion. There was no apparent intention of aspersing the customs of the Jerseymen.

Coming nearer home the suggestion of a yearly bath is one savoring less of wit than of pathos. Who that has ministered to the inmates of the city's tenements has failed to find an explanation of their apparent antipathy to water if he has entered their homes? If the tenement is one of a higher grade an iron sink is found in each apartment; if of the lower class, one is placed in each hall for the two or four families occupying the floor. And this is what is provided to encourage that cleanliness which is said to be next to godliness and which goes so far in the prevention of disease! With a large family packed in a few small rooms it is little wonder that ablutions are confined to the face and hands. Ventilation the owners of tenements can and must provide, but plumbing is expensive, and the installation of baths would place the cost of the poorer grades of tenements out of the reach of those whose limited means force their occupation of this class of dwelling.

The provision of bathing facilities in these houses themselves being obviously beyond the limit of what may reasonably be expected, public baths are the natural solution of the difficulty. The recommendation of Commissioner Kearney that the city construct eleven public bath-houses, five of them to be placed in Manhattan, is a step in the right direction and deserves the support of every physician. There are, of course, some of the more newly-acquired citizens of this growing land of freedom who have an inherited fear of ablutions, but with facilities at their command it is likely that although the present generation may be hopelessly grounded in its dread of water, the characteristic might be eliminated in the next. No stronger sign of the appreciation of the public can be needed than the weekly attendance at the Rivington Street Public Bath, which is set down by Mr. Kearney as thirty thousand.

INTERMEDIATE TYPES OF DISEASE.

Long ago in the columns of the *Century* Uncle Esek said very well, "It is not so much the ignorance of mankind that makes them ridiculous as the knowing so many things that ain't so." The expression sums up in a few pregnant words a very prevalent state of the human mind of which the physician has especially to be careful. Most of the medical practitioners of every generation have been perfectly "cock sure" of a number of things that the next generation of physicians (and surgeons) have learned to look on as absurd. It would be almost childishly naive to hope that our generation is to be saved from the pitfalls of false opinion, and so we may be sure that at least a certain number of our present-day cherished ideas will loom up before we shuffle off this mortal coil as the not easily explicable errors of deficient knowledge.

Our dogmatism is manifest in this present generation in nothing more than in the labeling of disease types. We call a disease rheumatism and then seem to think that we have definitely classified it. We call a condition cirrhosis of the liver and are apt to feel that that ends the matter. There are hopeful signs, however, of growing dissatisfaction with accepted types of disease. From many sides we are learning what manifold conditions may be included under the term rheu-

matic. Not only are there variants according to the acuity or chronicity of the disease, but also in the cause of the underlying pathological condition. A very helpful book has been recently written on "Some Cirrhoses of the Liver" in which the author frankly admits our ignorance of the various forms of sclerotic disease of the hepatic gland, while making clear that their name is probably legion.

Perhaps in no department of nosology are we less ready to admit the possibility of further development in differential diagnosis than in the acute exanthematous diseases. There is a universal and very definite impression that, at least in the matter of eruptive disease, medical diagnosis has attained precise and unalterable limits. Recent investigations, however, go far to disturb this apparent finality. Within the last ten years the medical world generally has come to admit the existence of an independent type of exanthematous disease in what is known as German measles, though why the adjective German should be employed rather than any other national epithet is not very clear. Last year an English physician described an epidemic of "a fourth disease," that is to say, he found that under the term "rubella" or German measles two diseases were confounded, neither of them identical with scarlet fever or measles. This observation needs substantiation by other investigators, but it serves to show very well the spirit of the times and the encouraging skepticism as to the absoluteness of present-day types of disease.

As a matter of fact it would not be surprising if there were many more distinct exanthemata than those now recognized. It is a subject for wonder that the skin should react with such characteristic difference to what are, after all, very similar irritants, but, since it does react differently, the limit of its variability under conditions of irritation is hard to set. There are said to be some eleven different kinds of nut-galls produced by the sting of insects in this country alone. Each form of gall is produced only by one special kind of insect and the cells of the tree react differently to each ovipositor. The more highly specialized cells of the human skin might well be expected to give many types of eruption as a consequence of specific irritants.

That we have not as yet all the important exanthemata finally classified seems sure. One of the largest and most important groups of exanthematic infectious fever is embraced under the term smallpox. There is a growing impression that there is included under this head more than one type of disease. Many believe that there is an intermediate disease between varicella and variola. Some examples of this type of disease, for which vaccination proved no protection and immediately after which vaccination was successfully performed, were described at the sessions of the American Medical Association last year. It remains to be seen whether such an intermediate type of disease does not really exist. Some excellent opportunities are just now afforded students of smallpox here in the East for the detailed study of the disease. Let us hope that the chances provided will not be missed and that the present epidemic will at least bring us definite knowledge on these disputed points.

ECHOES AND NEWS.

NEW YORK.

Modified Smallpox Epidemic.—Middletown, N. Y., is suffering from a mild epidemic of modified smallpox or an intermediate disease between this and chicken-pox.

Navy Yard Garbage Washes on the Beaches.—Many complaints have recently been made regarding the pollution of the shores of Bay Ridge and contiguous territory with garbage. Investigation has shown that the Government scows which carry refuse from the Navy Yard contribute more than their share to this nuisance. Formerly the refuse of the yard was burned in the crematory, but for some unknown reason this has been discontinued.

Vaccinators Reinstated.—The Health Department has reinstated the forty extra medical inspectors who were employed to vaccinate school children and who were suspended two weeks ago because the Civil Service Commission declared that they were not entitled to the pay they were drawing. The men were simply hired from month to month and received $100 per month each as salary. The Civil Service Commission declared that the men were entitled to but $600 per annum and to receive $1,200 a year without competitive examination was a violation of Rule 37 of the Civil Service rules, and the Health Department was forced to dismiss the additional vaccinators. Rule 37 is: "An increase in salary or other compensation of any person holding an office or position within the scope of these rules beyond the limit fixed for the grade in which such office or position is classified, shall be deemed a promotion."

Results of Dr. Doty's Mosquito Campaign.—Dr. Doty has issued a report on his experiments in mosquito destruction at Concord, Staten Island. After referring to experiments in various parts of the world which proved that

the malarial parasite was transmitted from one person to another by the female of the *Anopheles* species of mosquito, the Health Officer of the Port says that he found at least 30 per cent. of the inhabitants of Concord suffering from either acute or chronic malaria. "In almost every house or yard were found typical breeding-places for mosquitoes," he writes, "either in the shape of used or unused rain barrels, cisterns, cesspools, or abandoned receptacles thrown about the premises. Samples of water from these, as well as all stagnant pools, were examined, and the larvæ found. In some instances, particularly in receptacles about the house, the water was actually alive with them." Of twenty-seven mosquitoes taken from a bedroom, more than one-half were malarial insects. The stagnant pools in the Concord district and the weeds surrounding them were treated with oil and relief was felt by the inhabitants. Dr. Doty concludes that the use of petroleum as advised by experts bears out the claims made by them.

PHILADELPHIA.

Statue of "The Medicine Man."—The bronze equestrian statue of "The Medicine Man," by Cyrus E. Dallin, has arrived from Paris and been formally accepted by the Fairmount Park Commissioners. The Austrian Government had authorized its purchase for Vienna before it was known that Philadelphia had secured the statue. It will be mounted on the summit of Strawberry Hill, Fairmount Park.

Insane Asylums Overcrowded.—The institutions which suffer the most by Governor Stone's reduction of appropriations are probably the State insane asylums. The asylum at Harrisburg is most in need of improvement, the State Board of Charities asking for an appropriation of $498,000 for two years. This was cut by the Legislature to $256,000 and the Governor further reduced it to $136,000. The capacity of the buildings is about 700 and there are now 879 inmates. The result of the cut in appropriations means that many of the additional insane for the next two years will be sent to county homes and detained as paupers with pauper care.

Smallpox Hospital Looted.—The smallpox hospital at Gloucester, N. J., was recently robbed of the beds, bedding, chinaware, supplies, etc.

Resignation of Dr. Taylor.—Dr. J. Madison Taylor, for fifteen years professor of diseases of children in the Philadelphia Polyclinic, has tendered his resignation.

Deaths from Gasoline Explosions.—The explosion of gasoline August 5th which wrecked five houses, caused the death of eight people, and seriously injured a dozen more, has caused unusual activity among the city officials in searching for other places where that material is illegally stored. A special license must be owned if more than one gallon is kept. The insurance patrol records show that since 1895 there have been 120 explosions from gasoline in some of its forms.

Large Bequests to Charities.—The will of Emily Phillips, who died July 24th, leaves a large portion of the estate of $400,000 to charitable institutions. Among the bequests are Jefferson Hospital, $10,000; Jewish Hospital, $40,000; Pennsylvania Hospital, $4,000. The Presbyterian Hospital receives $2,000 and the Medico-Chirurgical and Howard Hospitals $1,000 each.

Typhoid Fever Again Prevalent.—For the week ending August 10th there were reported 117 cases of typhoid fever, an increase of 25 over the preceding week. Until the latter part of July the present year showed a much smaller number of typhoid cases than during the epidemic of 1899. Of late the records about equal those of two years ago, although a repetition of that epidemic is not feared at present.

University of Pennsylvania.—Dr. C. J. Essig has resigned the professorship of mechanical dentistry and metallurgy in the Dental Department of which he was the founder in 1897 and its first Dean. Under his management it became the most successful department, financially, in the University.

CHICAGO.

College of Physicians and Surgeons, Chicago.—This institution has recovered from the effects of its recent fire and is now in excellent running order for the fall term.

Infant Mortality Reduced.—Infant mortality has been so reduced and sanitary conditions have been so improved as a result of the labors of the volunteer medical inspectors that Dr. John R. Neeley has decided to issue a call for fifty more physicians and nurses. When the new volunteers enlist the inspection, instead of being confined to the Ghetto and other crowded tenement districts, will take in other parts of the city where insanitary conditions may be ameliorated.

Graduate Nurses Organize.—The work of organization in the Graduate Nurses' Association of Illinois has been completed. A constitution has been adopted and steps taken for the incorporation of the Association. The object of the organization is to secure State recognition for trained nurses in the same manner that physicians and pharmacists are legalized.

Need of Isolation Hospitals in Chicago.—Dr. Heman Spalding, Chief Medical Inspector of the Health Department, discusses this subject in a recent issue of the *Chicago Tribune*. Among other things he says: "Chicago has a well-equipped isolation hospital for smallpox of which every citizen may be proud, but the city has long needed isolation hospitals for diphtheria, scarlet fever, measles, whooping-cough, and tuberculosis. These isolation hospitals are necessary for those who have no

means at home for the proper care and precautionary measures necessary to prevent the spread of contagion. Almost daily scarlet fever and diphtheria are found in families where other members of the family have no escape from disease. An example of the efficacy of the removal and isolation of persons suffering with a communicable disease is found in our experience here in Chicago in suppressing smallpox. During the recent outbreak of smallpox throughout the country many persons afflicted with the disease in all its stages have come to the city from various States and mingled with others before their presence was known to the Health Department. The prompt removal to the hospital of all persons afflicted with smallpox has enabled the Department to keep the disease from gaining a permanent foothold in Chicago. The other infectious diseases could be stamped out with even less difficulty if the same methods used for smallpox were pursued in cases where safety could not be secured in the home. Is there not some way to secure isolation hospitals for epidemic contagious diseases not now provided for? The city should build and own them, but the money is not in sight. The millionaire philanthropist sees more attractive fields in aiding those who are not helpless by endowing colleges and fitting up libraries. If the Chicago University will build these hospitals in connection with the medical department of the Rush Medical College, it will be a stroke of wisdom furnishing unlimited rare clinical material for teaching. Such a hospital could be made self-supporting, as many able to pay would seek isolation and treatment there. It would be a place where the stricken hotel guest could go, when to remain would be a source of danger to others and the cause of financial loss to the landlord."

Chicago Eye, Ear, Nose and Throat College.—This institution, which recently moved into its new building, offers to practitioners of medicine the very best facilities for acquiring proficiency in physical examination, diagnosis and treatment of diseases in these very important departments of medicine. The college is located at 206 East Washington Street. Instruction is both clinical and practical. The college is thoroughly equipped in every respect, particularly in the way of instruments and apparatus, which are as essential as a fine building. It has a limited number of free beds and operations, board and nursing are furnished. These beds are much in demand and often booked in advance.

Transfer of Preclinical Work of Rush Medical College to the University of Chicago.—It is believed that this transfer marks a distinct step forward in medical education in this city. This combination, more intimate and satisfactory than has hitherto existed between the interests of the University, will prove to be of incalculable benefit to both. The present transfer, it is hoped by many, represents only a partial realization of the possibilities of combination which the common interests of Rush Medical College and the University of Chicago suggest. Conditions are changing with the times, and the factors which prevented the close proximity of hospital and university in large cities are rapidly disappearing; indeed, they may be said no longer to exist.

New Clinical Amphitheater.—At the Mercy Hospital a magnificent surgical and clinical amphitheater is in process of erection; it will cost $25,000. Its seating capacity will be 400, and no seat is over nine rows from the operator. Tile, marble, glass and every modern arrangement will be employed to make the surgical schoolroom a model of its kind. The expense is being met very largely by the Northwestern University Medical School and its use will be confined to the Faculty of this school.

Internes Forbidden to Perform Operations at the Cook County Hospital.—Internes at the County Hospital are henceforth barred from performing major operations. Warden Healy has issued the most stringent order ever posted in the operating-rooms of the hospital. This order went into effect August 5th and reads as follows: "Under no circumstances shall any interne be allowed to perform a major operation or high forceps delivery, either with or without the presence of the attending surgeon. In any case of emergency the house physician or surgeon shall secure the immediate attendance of the attending physician or surgeon. This rule covers all operations where it becomes necessary to place patients under anesthetics. Any violation of this rule will subject the offender to immediate suspension from the hospital force." In consequence of this rule internes are up in arms against the Warden. They protest that they are at the hospital for the experience they gain in the operations there performed, and that without the chance to operate they learn very little. But Mr. Healy will not change the order nor in any way modify it. For a number of years it was the rule that all major operations must be performed by the staff surgeons, and internes were not permitted to do the work. This rule was not rigidly adhered to, with the result that many operations were done by the internes themselves, and the number of these operations kept increasing with unsatisfactory results.

GENERAL.

American Veterinary Medical Association.—The thirty-eighth annual meeting will meet at the Hotel Rudolf, Atlantic City, N. J., September 3, 4, 5 and 6, 1901.

Canadian Medical Association.—The thirty-fourth annual meeting of this Association will take place at Winnipeg, Manitoba, August 28-31, 1901. An interesting program is promised.

Mississippi Valley Medical Association.—The next annual meeting of this Association, to meet at Put-in-Bay, offers the following program: Address in Medicine, by Frank Billings, Chicago; Address in Surgery, by Reginald H. Sayre, New York City; Address of President, A. H. Cordier, Kansas City, Mo.; Pathological Cause of the Eruption in the Exanthemata, by J. M. Postle, Hinckley, Ill.; Acute Intestinal Auto-infection, by John M. Batten, Downingstown, Pa.; Surgery of the Palate, with Stereopticon Exhibit, by Truman W. Brophy, Chicago, Ill.; Some New Remedial Agents in the Treatment of Gynecological Affections, by Chauncey D. Palmer, Avondale, Cincinnati, O.; Surgical Treatment of Pulmonary Abscess, by D. N. Eisendrath, Chicago, Ill.; The Severing of the Vas Deferens and Its Relation to Neuro-Psycopathic Constitution, by H. C. Sharp, Jeffersonville, Ind.; Varicose Veins and Their Treatment, by J. Lively Johnson,, Louisville, Ky.; Subdural Hematoma from Pachymeningitis Hemorrhagica Interna, by Charles J. Aldrich, Cleveland, O.; Some Obscure Injuries Which Follow the First Toxic Action of Alcohol, by T. D. Crothers, Hartford, Conn.; Sterilization of Rubber Gloves, Catheters, etc., by Formaldehyd Gas; Correct and Erroneous Culture Tests, by A. Goldspohn, Chicago, Ill.; Auto-intoxication and Its Treatment, by Chas H. Shepard, Brooklyn, N. Y.; Aboriginal American (Indian) Contribution to Therapeutics, by B. T. Whitmore, New York City; The Bed-treatment of the Insane, by Frank Parsons Norbury, Jacksonville, Ill.; The Clinical Diagnosis of Carcinoma of the Esophagus and the Technic of Gastrostomy, by Charles G. Cumston, Boston; Clinical Notes on Gleet, by A. Ravogli, Cincinnati, O.; Dentists' Neck, a Hitherto Undescribed Neurosis, by Albert E. Sterne, Indianapolis, Ind.; The Value of Mechanical Appliances in the Aid of Intestinal Suture, by Edward H. Lee, Chicago, Ill.; A Discussion of the Morbid Conditions of the Upper Respiratory Tract Resulting from the Infectious Diseases, by Colus M. Cobb, Boston, Mass.; Congenital Valvular Obstipation, by Thos. Chas. Martin, Cleveland, O.; Features Determining Permanency of Cure in Radical Operations for Hernia, by A. J. Ochsner, Chicago; Science and Christian Science, Their Claims and Miracles, by Paul Paquin, Asheville, N. C.; Gastric Lavage, Its Uses and Abuses, by Thos. Hunt Stucky, Louisville, Ky.; Some Causes of Ignored Syphilis and Their Remedies; Clinical Examples Demonstrated from Lantern Slide Reproductions, by M. L. Heidingsfeld, Cincinnati, O.; A Few Cases of Hysteria, by Hugh T. Patrick, Chigaco, Ill.; A New Method of Controlling Hemorrhage in Operations upon the Head and Neck, by George W. Crile, Cleveland, O.; Tripartition in the Study of the Female Pelvis, by A. Ernest Gallant, New York City; Scientific Aids to Diagnosis, by Henry D. Holton, Brattleboro, Vt.; How Should Appendicitis Cases be Treated? by Joseph Price, Philadelphia, Pa.; A Case of Unilateral Fulminating Optic Neuritis Cured by Trephining the Sphenoidal Sinus, by J. O. Stillson, Indianapolis, Ind.; The Surgical Features of Typhoid Fever and Dysentery, by Hal. C. Wyman, Detroit, Mich.; Surgical Intervention in Pulmonary Abscess, with Illustrative Cases, by W. J. Macdonald, Albany, N. Y.; Report of One Hundred Cases Operated for Appendicitis, by Wm. J. Gillette, Toledo, O.; The Surgical Treatment of Diseases of the Stomach, by A. Vander Veer, Albany, N. Y.; Some Indications for Gastro-enterostomy, by Wm. J. Mayo, Rochester, Minn.; The Young Doctor, by Emil Amberg, Detroit, Mich.; Fractures, by E. B. Smith, Detroit, Mich.; Cancer of the Uterus, by Louis Frank, Louisville, Ky.; Floating Liver, with Report of Case, by J. H. Carsters, Detroit, Mich.; The Acquirement of Nervous Health, by F. Savary Pearce, Philadelphia, Pa.

Danish Prizes for Science.—Two of the Nobel Institute's scientific prizes, each worth 20,000 Danish kroner, have been awarded, one to Dr. Finsen, the originator of light treatment for lupus, and the other to Dr. Pavloff, a Russian physiologist, for his researches in nutrition.

Yellow Fever Serum.—It is reported that a government commission has been appointed to investigate the claims of Dr. Caldas as having discovered an efficient yellow fever serum, both curative and prophylactic.

Obituary.—Dr. William A. Newell, Governor of New Jersey from 1857 to 1860, died at Allentown, N. J., August 8th at the age of eighty-four. Dr. Newell graduated from the University of Pennsylvania in 1841 and had practised medicine since with the exception of the years he was chief executive of New Jersey.

Intelligence of the death of Dr. Herman Armgardt of 317 Leonard street, Brooklyn, was received last week from Hamburg, Germany, by his relatives. Dr. Armgardt was fifty-two years old. He came to this country when he was eighteen years of age and studied medicine. After living in Chicago for some years he returned to New York and settled in the Fifteenth ward, Brooklyn, where for over twenty years he had a large practice.

Dr. Thomas Sappington, who practised medicine in Frederick County, Maryland, and Baltimore for more than fifty years, died Monday, August 12th. He was the son of Col. Thomas Sappington, of Frederick County, an officer in the army during the war with England in 1812. He was born in Libertytown, Frederick County, on October 26, 1816. He was educated in the county schools and began to study medicine in Baltimore, but owing to certain differences among the faculty at the University of Maryland School of Medicine, he, with a number of other students, left and went to Philadelphia. He entered the University of Pennsylvania and graduated from that school in 1839.

CORRESPONDENCE.

REPLY TO DR. MC MILLAN.

To the Editor of the MEDICAL NEWS:

DEAR SIR: The action of the American Medical Association in recommending the reinstatement of the army canteen seems to have aroused the antagonism of hundreds (?) and perhaps thousands (??) of physicians, according to our worthy contemporary, Dr. D. I. McMillan of Sunbeam, Illinois and he, it seems, has been appointed to voice the sentiments of thousands whose deep-tongued bay sounds "Beware!" (See MEDICAL NEWS, June 22, 1901.)

In the battles of the world great generals are matched against great generals and petty officers pitted against their like, so that I may be pardoned when I take up the defense of the American Medical Association *versus* McMillan.

To see such a grand and noble body, whose name stands for all that is best in medicine, demean itself by noticing the bark of the champion of "anti-canteenism," would indeed be humiliating. But as Louisville, Kentucky, is *small* in comparison to Sunbeam, Illinois, and as the writer plays a small part in the affairs of Louisville's five hundred physicians, he feels that the contest (?) is worthy of his unwieldy efforts.

Seriously considered, the question involved is the choice between two evils, and, as the body politic, we should choose the lesser. The best is always that which benefits the greatest number of people, and if we can have an army canteen where our soldiers may obtain pure and unadulterated liquors in moderation, surely we have taken a step in the right direction.

That the American Medical Association carefully weighed the evidence for and against the canteen cannot be doubted by any familiar with the life-work of its foremost members, and that before taking action upon such a question it fully realized that whatever position it took there would be the usual "hue and cry" of partisans for some other *"sure remedy."*

That the Association has *pitted* itself against "the Christian sentiment of the country" I make bold to deny, but, if that Christian sentiment is such that it stigmatizes without thorough investigation and painstaking study of the situation as *it is*, then the time has come for the Association *to pit* itself against the fanaticism and prejudice of so-called "Christian sentiment."

I may not be as cognizant as the gentleman from Sunbeam, of the "doings" of the fifty canteens of Chickamauga, nor as conversant with the same at Manila, but this I *do know* that the medical men of our army and the army officers themselves now fully realize the mistaken kindness in abolishing the canteen.

I don't believe that even our worthy colleague of the opposite party would dare to impugn the motives of these men who ask for the reinstatement of the canteen, so let us hope that its reestablishment will be another step to the attainment of the American soldier's health, strength and mortality.

DUNNING S. WILSON, M.D., PH.D.

Louisville, Ky., June 30, 1901.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, August 3, 1901.

THE ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION—THE PRESIDENT—THE ADDRESS IN MEDICINE—THE ADDRESS IN SURGERY—THE SECTIONS—THE RECONSTITUTION OF THE ASSOCIATION—ITS FUTURE.

DURING the past week the British Medical Association has been holding its annual carnival at Cheltenham. Cheltenham used to have a great reputation in bygone days as a fashionable spa, especially favored by Anglo-Indian nabobs whose faces were as yellow as the gold they had brought from the East, and it still has about it an air of faded gentility from the number of half-pay generals and colonels and ancient dames of more or less high degree who haunt it. The best title of Cheltenham to present fame, however, is the fact that it is the seat of a well-known school for boys and a fine college for ladies. In the buildings of the latter institution the meetings of the British Medical Association were held. All the omens were favorable. The weather was delightful, the arrangements were good, and the occasion was of special interest as the proposed scheme of reform was to be discussed. There is always a large element of picnic in these annual gatherings, and probably as many members attend them for the sake of the dinners, garden parties, excursions to places of interest in the neighborhood and the miscellaneous junketings which result from the meeting of old friends, as for scientific edification. At Cheltenham ample provision was made both for amusement and for instruction, and the meeting was in both respects a success. The number of members present, though an infinitesimal fraction of a body which boasts a membership of some 19,000, was above the average attendance at the annual meetings.

The President of the British Medical Association is always chosen from among the medical practitioners of the place where the annual meeting is held. Hence unless the place be a large city with a university or at least a medical school, the President is generally a worthy man whose reputation is bounded by the confines of the town in which, like the Apostles, he fishes for men—not disdaining to gather women and children, too, into his net. The President of the British Medical Association—universally known and called (as the lawyers say) in the profession here as the "B.M.A."—for the year is Dr. G. B. Ferguson of Cheltenham, who as a graduate of Oxford has more general culture than is often found in provincial doctors in England. His oration was full of quotations in Latin, Greek, French,

and German, and ranged, as such discourses always do, over the whole universe of things medical. It ended with the statement—startling, indeed, as heard from the lips of a doctor—that "there is no death." Lest it should be thought that the President of the British Medical Association is a disciple of Mother Eddy, I hasten to explain that the words were quoted from Longfellow, and were therefore to be understood only in a Pickwickian sense.

Dr. James F. Goodhart, who was formerly physician to Guy's Hospital, delivered the "Address in Medicine." He is one of the few men in the profession who dare not only to think for themselves but to utter their thought. He is always tilting at some medical superstition. This year he had a good deal to say about what he called the "morbid readiness" of medical men to detect disease. They fix too high a standard of health for the great vital organs and condemn all who fail to come up to this artificial standard to a life of needless and harmful invalidism. "Many a one," he said, "who coddles a weak heart dies of real disease which an indolent habit has produced." The the term "catarrh of the stomach" is according to Dr. Goodhart too much on the lips of physicians as well as patients. The stomach is a good, strong, healthy servant, with possibly a prejudice or two; but if treated fairly it is most obliging and thorough. If its master from want of consideration offends it, the estrangement is only "a little domestic concern that wants no third party, such as rhubarb or creosote or salol, may be, to rub the injustice in. A little carbonic acid to soothe its ruffled feelings, and a kindly sorrow and repentance on the part of the master, with a penitential fast, and things will soon come right." Dr. Goodhart also expressed skepticism as to the "dilatation" of the stomach which is at present fashionable, and spoke very plainly as to the craze that has got hold of the public for operative treatment of real or supposed "mobilities" of internal organs. Throats and noses also "suffer terribly from this lust of operation which has beset the public." In reference to another craze, that of overdrugging, Dr. Goodhart quoted a pregnant saying of the late Sir William Gull. Once when a doctor excused himself for not having discovered the existence of a particular disease, that sententious pundit of physic remarked that it was as well he had not done so, for if he had he might have treated it!

The "Address in Surgery" was delivered by Sir William Thomson of Dublin, who did good service in South Africa as consulting surgeon with the forces, and who therefore naturally took as his subject the surgical lessons of the war. He referred with admiration to the results of American surgery in the Cuban and Philippine campaigns, and concluded with a warm tribute to the work done by our medical officers in South Africa. "They have not," he said, "flinched in danger on the field, and they have vied with their combatant fellows in deeds of valor. Six medical officers have been killed; 9 have died of disease; 12 have been wounded; 3 civil surgeons have been killed; 11 have died of disease; and 5 have been wounded. Of all branches, including orderlies and nurses, nearly 400 medical helpers have fallen victims to their labors."

Of the work of the Sections only a word or two need be said here. In the Section of Medicine there was a discussion on "Chronic Diseases of Joints, usually comprised in the terms chronic rheumatism, osteo-arthritis, and rheumatic gout, which brought out a considerable difference of opinion and led to no particular conclusion. In the proceedings of the Section of Surgery the kidney bulked large; while in that of Obstetrics, miscarriage and abortion formed the *pièce de resistance*. In the Section of State Medicine the discussions were for the most part of parochial rather than of general interest. The work of the Sections furnishes a good indication of the trend of medical thought at the time of meeting. It is interesting, therefore, to note that the Sections in which most general interest appeared to be taken were those of Naval and Military Surgery, and of Tropical Diseases. In the former the treatment of the wounded in naval warfare was discussed, and a pretty general feeling was expressed that, under the conditions now existing in British warships, treatment in accordance with the principles of modern surgery was always difficult and often impossible. In the Section of Tropical Diseases a discussion on Stone in the Tropics was opened by Mr. P. J. Freyer, formerly of the Indian Medical Service and now of London. A certain extra-surgical celebrity attaches to the name of Mr. Freyer as the recipient of one of the largest fees in the history of medicine. For attendance on a native Indian prince he was paid a sum of $50,000. The Indian Government which professes to "protect" native princes invited the fortunate surgeon to disgorge, but he preferred to retire from the service with his booty. Dr. Manson (to whom the Association has just awarded the Stewart prize of the value of $250), pointed out that two causes of stone were definitely known, namely, incrustation around a foreign body and around the ova of the bilharzia. He held that the causation of stone should be looked for in the light of a parasitic theory.

The chief interest of the meeting, however, lay in the consideration of the proposed scheme of reform of the constitution of the Association. The principle of the scheme—of which it need only be said here that its fundamental idea is to give greater facilities to the members at large to express their views on any question either of medical politics or the administration of the Association—was adopted, and the consideration of the details was referred to a Committee which is to present a report to a special general meeting to be held in October. At this meeting the proposed reforms will have to be accepted by a two-thirds majority; hence it is possible, though scarcely probable, that the scheme may be shipwrecked within sight of port. The most important part

of the reform from a practical point of view is that all members are to be compelled to belong to a Branch, and for this privilege they are to pay an increased subscription. At present a very large proportion of members are "unattached," and many of these have no desire for the privilege which it is proposed to thrust upon them. If, as is not unlikely, a large body of unattached members were on this ground to withdraw from the Association, a strain would be put on its vitality which even its amended constitution might not enable it to endure. What makes the situation still more risky is that the reformers show a decided tendency to embark on a largely increased expenditure. If the income is materially diminished by the secession of a large number of members, it will not be surprising if the B.M.A. splits into a number of independent—and insignificant—societies, and the reformers will have the satisfaction of feeling that by meddlesome treatment they have killed a useful institution. How little they reck of the financial element in the question was well shown at the meeting. Mr. Butlin, surgeon to St. Bartholomew's Hospital and a former treasurer of the Association, raised a voice of warning as to the proposed increase of expenditure; but none of the speakers who followed him thought it worth while to make any reference to the subject. Thus, as Falstaff says, doth wisdom cry out in the streets and no man regards it.

It will be interesting to watch the future of the Association. So far its history has been a record of almost uninterrupted prosperity and expansion. By a curious coincidence one of the earliest of its annual meetings was held at Cheltenham in 1837, the year of the accession of the late Queen Victoria. On that occasion its membership was under 1,000; now it is 19,000 with branches all over the British Empire. Of these 19,000 probably not more than 1 or 2 per cent. care a jot about the reform of the Association or about medical politics in any form. It is thought by some ardent spirits that the new order of things will breathe life into this huge inert mass and make it active in public work. Enthusiasm can do almost as much as the faith that moves mountains. But the age of miracles is past, and the transformation of the medical profession of Great Britain into a living political force would be nothing less than a miracle. Time, "the subtle thief of youth," may also be trusted to steal from the hearts of our reformers much of the enthusiasm which now throbs in them with so full a pulse of eager hope.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

RACHICOCAINIZATION—FRACTURE OF THE SKULL AND THE CEREBROSPINAL FLUID—THE BLOOD-SERUM IN TUBERCULOSIS—ACCIDENTAL DEATH BY COCAINE.

M. BROCA, at the Société de Chirurgie de Paris, July 3, 1901, presented a report of a fatality following rachicocainization from M. Prouf (Morlaix). The patient was a woman, sixty-two years old, with a foreign body in her foot. Under the usual precautions and in the approved manner, a centigram of cocaine was injected and the operation was satisfactorily performed. The patient was able to walk home unaided. About one hour after her arrival most alarming symptoms supervened and defied all treatment. Death occurred nineteen hours after the injection.

M. NÉLATON stated that he had seen a similar case in which the symptoms were respiratory and necessitated artificial respiration for fully three hours. For these untoward phenomena the cocaine had been unjustly blamed. The pharmacist of the hospital examined the solution and found it contained a substance which could provoke these signs.

M. CHAPUT endorsed his own custom of withdrawing a small amount of the cerebrospinal fluid before making the injection of the cocaine. Such a technic usually obviates the headache so often complained of by the patients. He has also had the satisfaction of controlling the nervousness of the patient by an injection of morphine a few moments before injecting the cocaine.

M. GUINARD has found great advantage in using the cephalorachidian fluid withdrawn as the vehicle of the cocaine injected. It tends to lessen the cephalalgia to a marked degree. Further, when such pain is present in intense degree he finds it will cease if some of the fluid is drawn off by a lumbar puncture.

M. SEGOND has had four experiences with rachicocainization and is not satisfied with its general usefulness. Two of his injections succeeded. The third failed of anesthesia, but excited grave cephalalgia. The fourth gave perfect anesthesia for an amputation, but within a few hours the patient was attacked by severe pains and an alarming pallor.

M. RECLUS did not believe in any variations in the numerous preparations of cocaine. If there were any solutions containing toxic substances it does not seem likely that he could possibly have escaped receiving and using them in an active minor surgical practice of over fourteen years during which he has generously employed the drug. He has abandoned the use of it in the spinal canal, because it so often excites severe headache.

M. TUFFIER stated that before cocainization of the spinal cord should be condemned on the count of fatality it will be necessary to obtain a full and impartial report of all the deaths from chloroform since the beginning of the discussion of rachicocainization.

M. RENDU, at the Société Médicale des Hôpitaux, July 5, 1901, related an observation he made of a man, forty-six years old, who was brought to the hospital in a state of unconsciousness. Later he showed a right-sided hemiplegia and an aphasia, making one think either of an area of softening due to a thrombosis of one of the vessels of the fissure of Sylvius or of a meningitis of localized character. He succumbed a few

days later in a coma after a series of epileptiform seizures. At the autopsy a fracture of the vault of the skull was laid bare; nothing during life had served to indicate it. It was situated in the right temporal fossa and extended forward to the frontal bone. In addition, there were present two intracranial hemorrhages, one on each side, one beneath the pia mater and the other between the dura and the pia. Where the pia had been stripped off the brain substance was much softened. A lumbar puncture during life had given a rachidian fluid slightly tinged with blood, although the quantity in the skull had been considerable. The explanation of this might be its site far up in the vault of the skull. A cytological examination of this fluid had revealed a very marked lymphocytosis.

M. WIDAL said that such discoveries show that the cytodiagnosis of the cephalorachidian fluid is of value not only to the physician but also to the surgeon. He has often demonstrated to himself that whenever the meninges are the seat of a chronic irritation, however slight, a marked lymphocytosis occurs within the cerebrospinal fluid. Although this has no specific diagnostic import, it serves to show in a general way what the conditions are. Since it seems to be without any exceptions it may serve to clear up the question as to whether or not the meninges are affected.

M. WIDAL also read a paper on the subject of the presence of *sensibilisatrice* in the blood-serum of tuberculous subjects specific like that found in the blood of enterics. In his experiments he used the method of fixation recently set forward by Bordet for the bacilli typhosi and other microbes. Every one is aware that in ordinary media the bacillus of tuberculosis creates pellicles and scales which resist solution in ordinary ways. To obviate this inconvenience he adopted with M. Le Sourd a culture rendered homogeneous by the methods of d'Arloing and Courmont. In order to be free from the glycerine and other clarifying agents contained in their bouillon they subjected the culture to the centrifuge for fifteen or twenty hours and then drew off the bacilli. This suspension of the bacilli themselves was then diluted with a seven-per-cent. solution of chloride of sodium. They developed the fact that *sensibilisatrice* is present almost constantly in the serum of the phthisical, it was in evidence once in a case of pulmonary tuberculosis before the period of softening, but the tendency seemed to be that it rarely occurred before the patient began to give clinical signs of the disease. They also found it with the aid of bacilli killed by boiling for one hour at a temperature of 72° C. It is true that this is less exact and less regular than when one uses the living germ.

M. MAUREL at the Société de Biologie, July 6, 1901, discussed his theory of the mechanism of the cause of accidental death from cocaine-poisoning. We know the changes in form which the leucocytes undergo in the presence of cocaine. Further, when an injection of concentration, namely, 5 to 10 per cent., is made into the veins of rabbits (excepting the veins of the portal system), death promptly occurs when the dose is .01 centigram per kilogram weight of the animal. This familiar change in the leucocytes is that they assume spheroidal form. On the other hand, by using solutions of less strength, for example, 1-400, he was able to inject up to .03 centigram of cocaine without producing any symptoms whatever, although the amount was also per kilogram of the animal's weight. The injections were all intravenous. By the hypodermatic method a result was obtained, but much less intense. By the arteries a very active effect upon the white blood-cells was seen; but 0.100 gram per kilogram of the animal weight could be used before causing death. A similar effect was seen when the portal venous system was used. It appears then that the danger of cocaine lies in injection into the veins, other than the portal, in a concentration sufficient to either kill the leucocytes or to cause them in large quantities to assume the spheroidal shape. He also found in the pulmonary vessels great accumulations of these white cells forming real embolisms. Hence he concludes that in sudden death from cocaine there exists an embolism of the pulmonary vessels composed of such dead or spheroidal white blood-cells.

SOCIETY PROCEEDINGS.

BRITISH MEDICAL ASSOCIATION.

FIRST DAY—JULY 30, 1901.

(Continued from page 236.)

Address in Medicine.—Dr. James F. Goodhart of London gave an address, entitled "Friends in Council," in which he spoke of the doctor as the potter and the wheel of animal life and their mutual relation to the living body of their patient. In speaking of the vitality of life he said, "All our parts are one. So absolutely one that it is impossible to suffer bad pain in two separate parts of the body at the same time—one comes and the other goes. So absolutely one that when one thinks hard the feet grow cold, so one that when one member of the body suffers all the members suffer with it; so one that the temporary failure to lock or unlock the points at the many junctions and sidings will disarrange the whole. So much so that to any thinker sufficiently detached from himself it may well seem that the harmonics of the song of life are so extremely intricate as to be impossible of performance. And yet the song of life is sung, and on the whole to most of us the result is beautiful. And then behind all, or rather before it, is this curious unfathomable mystery, 'the boon of life.' 'I needs must live,' the body seems to say. Some cynic asks where is the necessity. But that is life, or all we know about it. The 'needs must' live, an unconscious blind unquenchable energy

that carries on the being irrespective of his will, and which, blending with his conscious will, renders the clay at once so plastic, and yet too at one and the same time so unimpressionable."

Vital Energy.—He then went on to speak of the living energy of the body and its influence to keep men alive under diverse conditions. "The spirit of life has no knowledge of death. It is always eager, and death comes to it as a catastrophe by the fault or decay of its subordinate ministers—the brain, the heart, lungs, liver, skin, and so on. And this irrepressible living energy will carry on to old age a very weakly flesh. In saying this I think of the disappointed ones in the race, the tired, the painful; for I have come to the conclusion that there are those who are tired, who are full of pain, from early years even to old age. There are many of these who have missed their mark, who must be very weary of life, but the motive force of their being will not let them go. I suppose, too, that this ever restless, yearning life within us tends to show up the weaknesses of our bodily construction. It is, no doubt, only to be expected that with a restless driving power within us joints that are losing the polish of their early smoothness, bores that no longer allow of sureness of aim, tired bodies that need sleep or rest—organs, in short, that now work with labor that before ran riot in their unconscious ease—should, if stimulated, express their work in weariness that is perhaps worse than pain. Let me give an example: There are a large number of people who at the present day come and tell you that they cannot think or that they cannot concentrate their thoughts. I seldom find that the associates of these have observed any difference in them. They can, in fact, think well enough, only thought is conducted with a sense of labor now, whereas in times gone by it had glided on untold. Who does not know, too, of the common complaint of muscular fatigue, the man or woman who is always tired? The muscular apparatus works with conscious labor, and thus all the pleasure of living is taken away; and you cannot cure these people, because they are mostly people full of vital activity; the spirit within them is a willing one but the flesh is weak."

The Difficulties of Medicine.—"It is clear, without laboring the point, that a body so composite as ours is so very delicate a machine that there must be many and many a case presented to us where we do not, many even where we cannot, know what is the matter, and taking even the most favorable view of the progress of scientific discovery it is probable that this will be so till time shall be no longer. We cannot know because the intricacy of the machine hinders one in getting at the real facts. We cannot know because even when we have got at the facts we cannot be sure that the remedies used will get at the disease. When we come out of the aloofness of the contemplation of growth, nutrition, degeneration, and death to take part in the active grappling with these by stimulating this function and dulling that, in the attempt, in short, to arrest or stop disease, our difficulties become appalling, but this is quite unrecognized by most of those with whom we have to deal. Take the liver or the bones as concrete examples. Of the bones and the exchanges that go on between them and the other component parts of the body, I think we may say we know nothing, and yet no doubt they extract material from the general store that the general store is better without, and they return to the common stock material which is beter adapted by the abstraction for the purposes of other parts. Then the liver, the largest organ in the body; its imports and exports must be enormous, and from the familiar way in which it is spoken of there cannot be a man in the whole world who does not think he knows all about it. But what are the facts? We know something about the physiology of the liver, but this knowledge has been mostly obtained by experimentation on the lower animals, by observations that occasional cases of disease afford us, and by certain inferences that we draw —very much at second hand—from the changes produced by disease in the organ. But all these things, valuable as they are, and without which where we should be I don't know, yet are very far from giving us that real and intimate knowledge of the living organ that we require to enable us to treat its diseases."

Individual Character in Medicine.—"Take next the vital element and its bearing upon the handling of disease. Here again we are often foiled when we would be positive because of the personal equation, as it is called, the individuality of the patient. When Mrs. Smith asked her doctor why it was that a particular pain possessed her, he is said to have replied with ready wit and no less truth, 'Madam, it is because you are Mrs. Smith.' And the lady no doubt thought her doctor a very amusing man, but she had not a glimmer of the great truth that had been administered in such an excellent coating. But, indeed, that 'because you are Mrs. Smith' constitutes one of, if not the most, insuperable of the difficulties of framing any system of precise medicine, and over and over again fattens crass ignorance at the expense of real knowledge. In the practice of medicine you cannot jump the fact that the inflections of your voice are not exactly like those of any one else; and as long as the world lasts, this variability of the living force, this individuality, will prevent the attainment of the popular desire—a cut and dried remedy—not only for every disease—that is no use to Dick when the remedy touches only Tom's variety; no, we want a remedy for every disease, and for every variety of it, as met with in the young and in the old, in the otherwise

healthy and the unhealthy, under the specious garb of mildness, or the pronounced type of malignity, that is another of the cruxes of medicine that the world wots little of. And then as part of the animal energy of man, of the spirit of life, perhaps the chief human expression of it, comes that wonderful indescribable something that we call hope. One hears talk of forlorn hopes, but hope is never forlorn; its springs is always light and buoyant, and it is as indomitable as life itself. Of all the unnatural conditions of which medicine takes count, perhaps none is so much so as life without hope. When hope flies out of the window death is lurking at the door, but in the good providence of God man cannot quench it, and I beseech you that you never try. With human life, then, and hope before us we may pass on to the patient who embodies them, and to the doctor who, while also similarly endowed, has yet to influence and control them as best he may."

Patients.—"We must for a moment consider each of the two parties, their influence upon each other and thus upon the progress or otherwise of scientific medicine. Are we gradually surging on by a natural process of evolution to a perfect system of the treatment of disease? Is the management of the sick man and the ailing man in the present day as perfect as it might be? On the larger side of the subject—that of preventive medicine and the scientific knowledge of disease—it is obvious that great discoveries have been made in the recent past, and the dawn is surely breaking of a still more brilliant day. So far as this side is concerned I think it may be said that we are steadily working upwards to that time when much of the present gross disease—tuberculosis, microbic fevers, etc.—shall be no longer. On looking over the field of disease, although it is said that the average duration of life is longer than it was, I neither find that medicine is less often in request, nor that an ailing public is less in evidence. I am here to contend on the contrary, that we are growing more and more sensitive about our health, more impatient when the flies of ill health worry us, that we are crying more loudly for a cure for every disease, whether it be one that is commencing and curable or so advanced that—as, say, in a bad case of phthisis—the greater part of an organ is practically destroyed, and a restoration of its health impossible. This is shown in several ways: in the first place the sick man wants to know too much. He wants to know what is the matter with him when it is not possible to tell him; moreover, he will have an answer, and if not he thinks the doctor an ignoramus, and calls in someone else. It is because the public will have a disease ticketed when there is no means of identification that these difficulties arise, and because it still sets such store by the man who plunges. How much better would it be if the obvious were better recognized that the doctor is but mortal, and if others than ourselves could take part intelligently in our doubts and difficulties. And having got a name for his complaint, from either wisdom or ignorance, the patient thinks his physic tumbles out of the same slot, and that between the two he will be cured offhand."

Doctors.—"And now for the potter who has more or less to fashion this clay as it somewhat impulsively rolls along under the momentum of the wheel of life. The simile is not a good one, for the doctor is never a fashioner, although sometimes in the plenitude of his pride he conceives himself to be, and then o'erleaps himself, not he, but his patient, unfortunately, falling on the other side. What are we doing in this impatient, restless age to stem the tide, to stay the panic, to bid the people keep its head? I do not mean in the immediate present, for we always do our best for the patient according to our lights, but with our eye on the future and that continuous progress as individuals for which the Goddess of Medicine is marking time, and surely points us to. I do not doubt, I say, that everyone of us does his best for the man that consults him, but I am not sure that in attending to the exigencies of the immediate present we do sufficiently take heed of the future. First may be put a morbid readiness on our part to detect disease. Engaged as we are in this pursuit there comes a risk that we too little appreciate the wide range of health; that is, how good a state of health is compatible with numberless slight and even sometimes considerable departures from normal. We tend to make our standard too severe for practical purposes."

Drugs.—"Now, why do we give drugs? To cure disease, you answer at once, and think the question unnecessary. But wait a minute; we give drugs for several other reasons, some of which are far less free from criticism. For example, drugs are often given, not because the disease demands one, but because the patient is not happy till he gets it: too often he is not happy even then. They are given sometimes to hide our ignorance, I fear, or to mark time while we watch and wait; they are given sometimes as a gambler on the Stock Exchange speculates in 'futures,' an enhanced reputation being the windfall that it is hoped to secure; and then we often give drugs as an experiment in the hope that they may do good. I will deal with this last more especially, for it is a reason for giving drugs about which the public are peculiarly sensitive and ill-informed. It is often said as a matter of prejudice against the hospitals of our country—than which none could possibly be conducted more humanely and considerately—that the patients are made the subjects of experiment. So they are. But this happens not only in the hospital. If it be true—and it is true—that you and I are unique in our way, and that it is this individualism of

man that constitutes the great barrier of the evolution of any system of medication, it follows that each new patient who demands treatment is more or less a case for experiment, and it is by experiment of this qualified kind—upon the king as he sits upon his throne, as for the poorest being within his realm—not only that the value of drugs is established and new powers gained over disease, but by which an increase of knowledge of disease itself is gained. The cure of disease is always the fundamental object; but not far behind it should come the alert eye to watch the deviations from the hypothetic normal which the individual resistance or the drug in its action may show in the course of the case. All treatment by drugs is more or less of an experiment, and it is, indeed, in this fact that the enormous number of new drugs daily poured upon us finds its justification. Many and many an ailment that afflicts mankind badly needs a remedy, but for which, as yet, no remedy is opportune; and who knows but what in each new drug some human ill may find alleviation?"

The Dangers of Routine and Fashion.—"Now all this routine and fashion, and remember I have only taken one or two instances out of numbers that lie at my hand, I object to, and I do so because it all tends to establish false relationships between the doctor and his patient, and let me attempt to show you how. The patient first of all asks us for a name to his disease, and whether we know or not we give him one. In so doing we, as I say, speculate in 'futures'; and this is a form of business that very often ends in bankruptcy. No remark is more frequent at a consultation than that we must give a name to the disease. I object to giving a name to anything I am not sure about, and when a man says to me, 'That is all very well for you, but it would never do for me,' I object still more, because the general practitioner is the great instructor of the public in matters medical. I have not a tithe of the influence that he has, and by giving names to symptoms that are doubtful in their significance, he is first of all losing an opportunity of insisting upon the dignity of ignorance; then he is conveying to the public the erroneous notion that we have the power of insight into problems that are at the time inscrutable; and we ultimately end in deceiving ourselves into thinking that we know much more than we do, an idea that is fatal to the progress of knowledge. There are hundreds of examples that might be given, but the various febrile disorders are the most fertile in discords of this sort. It is often absolutely impossible in the early days of typhoid fever to say what is the matter; equally is it absolutely impossible in many of the eruptive fevers to say what of several things will eventually declare itself. It is not ignorance but knowledge that halts. When I first entered Guy's Hospital, some thirty-six years ago, it was a common saying about one of our staff at that time, and certainly one of the best physicians of that day, that he knew so much that he could but seldom be prevailed upon to give a positive diagnosis. And it is true, as Sir Arthur Helps says in the book from which I have borrowed the title of this address, that knowledge brings doubts and exceptions and limitations that are all hindrances to vigorous statement."

Indiscriminate Drug-Taking.—"Then a word about the evil of letting the public force our hand in the matter of drug-taking. I have already alluded to routine as destructive of all scientific observation, enabling as it does the giver to see only cures and nothing of failures, though they be in very truth staring him in the face. But I am now alluding especially to the numberless occasions when drugs are given, there being at the time no distinct indication for giving anything. There is no doubt that this is a very common and bad fault with us. I do not say it must never be practised. There are times when the sick are not reasonable beings, and unless they have a bottle of medicine to anchor their faith to (oh, shifting sands!) they are in a state of unrest that is positively harmful to their progress. But there are multitudes who are not in this parlous state, who are capable of listening to reason, but who as now, having been taught to look for their prescription or their bottle of medicine, have no idea of the value of advice only, or of the need of the watchful eye. Why, we are all familiar with the 'Are not you going to give me a prescription?' when you have been pouring in advice with much prodigality of tongue, and had flattered yourself that you had gained a disciple; and there is no need to go far to be absolutely sure that the great body of the public, rich and poor, pay for our prescription, and that they do not value by a button any advice that lies outside it."

Value of Advice.—"But I think there is another reason for this indifference to the value of advice which, although it is perhaps one that savors of the sordid, I must nevertheless touch upon. I have often inwardly contrasted the two professions of law and medicine, how in the one advice pure and simple is sought and found, and the givers thereof acquire positions of milk and honey, and find themselves mounting to the high places of the land. In the other medicine passes for the consideration, and, well! the sellers thereof do not seem to possess themselves of many coveted places of honor. And if you ask me why this is, I believe it to be because we make ourselves too cheap. Advice—just think of it! A product of so unique a value, that when a man of great experience in the world of medicine dies his knowledge dies with him; no other man can supply his place, and there is a dead loss to the community of a mine of unrealized information. You all know that very clever signboard in which a bullock is seen gazing yearn-

ingly upon a small jar of meat extract and exclaiming, 'Alas! my brother.' But I often wish that I could pot my brothers as they flit from off the stage; my trouble is that my masters die unbottled. And yet we 'give' advice, and there are those in number who not only accept, but ask the gift. Oh, dreadful degradation that advice, a priceless article, should fall in value below cheese and butter! It is told of the late Sir Andrew Clark, with what truth I do not know, that when he was asked to give gratuitous advice he said, 'No; but I will give you the money with which you can purchase it.' Whoever said this was a wise man; for on the one hand there was in the answer the generosity that knows no bounds of medicine to poverty; there was on the other the dignity and self-respect that fully understood the preciousness of the knowledge that he had the power to impart; and we shall never make the public understand the true position of medicine until we set a higher value upon *ourselves* and upon the *advice* we give. The laborer is worthy of his hire is but one side of the question, and not the best side, for it might be held to cover many a sordid act; the other and much the more important is surely this, 'See to it that the hire is worthy of the laborer.' And although expressed in these terms the face value may seem to be one of low ideals, I am far from thinking, as I speak, of any money consideration, but of the higher and nobler recompense of dignity and self-respect. And it is, in part, because I think that to careful observation it must seem that the very nobleness and generosity of medicine does tend somewhat to make us forget the importance to its well-being of these just rewards that I have chosen this subject for my address to-night."

Section of Medicine.

Research in Medicine and Therapeutics.—Dr. E. T. Wilson of Cheltenham read a paper on this subject. The rapid evolution and general trend of modern medicine are due to the spirit of the times brought about by facilities for communication and interchange of thought. Science is no longer cramped, but has become free to the world. Of the newer problems which are to be presented he mentioned the relationship of peripheral neuritis and beer-drinking and malaria as of special interest at the present meeting of the Association. Activity prevails in every department of medicine and surgery, but in none have so many valuable results been obtained, in none have so many hopes been excited as in the scientific study of the infective diseases, of the exotic fauna and flora of the human body. The bacteriological diagnosis of certain diseases has become a matter of routine, and there can be little doubt that in the near future a need will arise for laboratories and specialists in every large center of population, to whom questions insoluble or doubtful in their clinical aspects may be referred, on whom will rest also the responsibility for the supply of such vaccines and serums as may be required in their several districts.

Improved Diagnosis.—An improved diagnosis, however, is but a small portion of the gain which has been derived from a scientific investigation of the causes of disease. Over a large part of the field of therapeutics a new direction has been given to treatment. Students are learning to look beyond the collection of symptoms which were once held to constitute the disease, with the result that, although symptoms will continue to claim the attention, and certainly that of patients, the true objective of treatment will be the micro-organism itself. Physicians are learning more and more at the hands of a new pathology to regard the human body as a battle ground on which important issues have to be fought out between invading organisms and poisons coming from without, on the one hand, and on the other those forces inherent in the system, of which so little is known as yet, but which may be summed up in the term "resistance," or in one older and better known, the *"vis medicatrix Naturæ."* Every disease which can be won over for the infective class becomes at once, if only in theory, preventable, and our treatment acquires a tangible and definite aim. In the first line of defence comes the destruction of the parasite before it obtains a lodgment in the body; and this will be divided between the health officer and the medical attendant, for it comprises the whole array of hygienic measures, including the isolation of the infected sick.

Parasites, Internal and External.—The means of attacking the parasite within the body are at present limited in extent, but some progress has been made, as, for instance, in the treatment of lupus by sun exposures, of rodent ulcer by the X-ray, and of tuberculosis of the lung by life in the open air. An additional defence is found in the vaccines, by which immunity, artificial or natural, is secured, such as the Cuban enjoys against yellow fever, or the vaccinated with cow-pox against variola. In serumtherapy an appeal is made to powers which cannot at present be explained, whereby for each several toxin produced by an organism in the blood a special antitoxin is forthcoming, and it is the possibility of supplementing this supply by artificial means which has deprived diseases, such as diphtheria and tetanus, of the terror with which they were wont to be regarded. Lastly, behind all these, there are in reserve the enormous powers residing in the blood-cells of offering a successful resistance to the invading organisms, a resistance the vigor of which is easily impaired by unfavorable circumstances, and which it will become more and more the aim of medicine to foster and improve.

Work Still to Be Done.—The number of the infective diseases is by no means complete, and it becomes almost possible to breathe a word of hope where despair has hitherto prevailed, that medicine may yet find work to do in the treatment, preventive it may be, of the neoplasms which occur with ever-increasing frequency. The cancer which the surgeon now removes with such consummate skill is not the disease; it had its beginnings in an insignificant outgrowth, during which the rapidly proliferating cells, estranged from their accustomed environment, would probably be vulnerable were it known how and where to attack them; and further back still lies the exciting cause, on the exact nature of which medical opinion is divided; there seems, however, good ground for suspecting that here, too, one has to deal with a micro-organism, and an infective disease, the remedies for which, though they may be long in coming, cannot be regarded as beyond the reach of human attainment.

Chronic Diseases of Joints.—Dr. A. E. Garrod opened the discussion on this subject. He said that several types should be differentiated, ranging in anatomical appearances, pathological processes and clinical features. Two characteristic varieties of rheumatoid arthritis were a fusiform type, occurring in early life, even in children with much disturbance of health, and a nodular type occurring in more advanced life, with little effect on bodily condition. The former had been considered to have alliances to rheumatism, the latter to gout, but it was by no means certain that such relationship exists. Clinical methods were insufficient to separate the affections.

Cheltenham Waters.—Dr. A. P. Luff said that many patients were sent yearly to Kissingen, Wiesbaden, Carlsbad and other German spas who might better go to Cheltenham. Two varieties of waters were to be found there, one resembling Marienbad waters, rich in chloride and sulphate of sodium; the other contained much magnesium and sodium sulphate. They were useful in constipation, obesity and dyspepsia and not useful in gout, but were valuable in intestinal catarrhs, glycosuria and rheumatoid arthritis. The summer season was most favorable. A wholesome activity on the part of the authorities would bring about a movement in the restoration of this city's old time popularity as a health resort.

Pneumococcus Arthritis.—Dr. Nathan Raw read this paper. He discussed in brief the possibility of metastatic involvement of different regions of the body by the diplococcus of Fraenkel and gave the histories of seven cases in which involvement of the joints had occurred during the course of frank pneumonias and in which the organism was obtained from the affected surfaces.

SECTION OF SURGERY.

Surgical Treatment of Renal Tension.—Dr. Reginal Harrison of London discussed this important topic under three heads: What grounds are there to suppose that increased renal tension may induce kidney lesions? Can such tension be relieved by surgical means? and how? Certain marked analogies of the effects of increased arterial tension on important structures, such as in the eye in glaucoma, etc., render it more than likely that like conditions of tension in the kidneys bring about grave structural changes, and clinical surgical experience in operations on the kidney has led him to believe that such tension does bring about nephritis, and the relief of the tension helps the kidney lesion; it also has its effects upon the general tension of the entire circulatory apparatus which is so markedly altered in kidney lesions. He then discussed in detail the methods devised by him to make an incision in the capsule of the kidney and thus relieve the tension in that organ. (See MEDICAL NEWS, Vol. 78, p. 447.)

Operative Treatment of Renal Calculus.—Dr. J. Hutchinson, Jr., of London said that the use of the X-ray had improved the treatment of this disease in that it had made diagnosis positive, had shown the size, number and location of the foreign bodies, and had made operation simpler, safer and surer. The safety of opening the pelvis of the kidney rendered it unnecesary to split the cortex, and thus made the operation much more simple and less dangerous.

Gastric Dilatation Due to Movable Kidney.—Dr. H. Bramwell of Cheltenham reported a unique case of movable kidney which dragged with it its peritoneal coating, forming thereby thick constricting bands which interfered with the functions of many of the hollow viscera, notably the pylorus. This was constricted and its spasmodic closure gave rise to an enormous distention of the stomach, bringing about the patient's death.

Femoral Hernia.—Dr. R. H. Parry of Glasgow described an operation for closing the crural canal from above. By means of his method the cup-shaped remnant of the crural canal was done away with, and the liability to damage of the femoral vein was avoided. The technic of the operation should be consulted in the original.

Shock in Prolonged Operation.—Dr. W. H. Brown of Leeds spoke of the well-known use of saline transfusion in the treatment of this condition.

SECTION OF OBSTETRICS AND GYNECOLOGY.

Puerperal Fever, Uterine Cancer, and Falling Birth-Rates.—These were the subjects discussed by Dr. J. W. Byers of Belfast in the opening address before this Section. In 1847-1856 the mortality from puerperal fever was in England and Wales 1.8 per 1,000. It rose to 2.28 in 1875-1884, and to 2.46 in 1886-

1895. The following figures give the most recent available statistics:

Year.	Deaths from Puerperal Fever.	Death-rate from Puerperal Fever per 1,000 births.
1895	1,849	2 0
1896	2,053	2.2
1897	1,836	1.9
1898	1,707	1 8
1899	1,908	2.0

Deaths of women at all ages from puerperal fever and other accidents of childbirth per 1,000 registered births in England and Wales: 1871-80, 4.72; 1881-90, 4.73; 1891-99, 5.12.

The following figures show the number of deaths in Ireland tabulated under parturition (accidents) and puerperal fever:

Year.	Total.	Death-rate per 1,000 Births Registered.
1895	769	7.2
1896	679	6.3
1897	696	6.5
1898	560	5.3
1899	601	5.8

For the same years the deaths and rate per 1,000 from puerperal fever for the whole of Ireland were as follows: 1895, 3.0; 1896, 2.3; 1897, 2.1; 1898, 1.7; 1899, 2.0.

TABLE SHOWING THE DEATH-RATE FROM PUERPERAL FEVER IN SCOTLAND DURING THE FIVE YEARS, 1895-1899.

Year.	Number of Deaths.	Proportion in Every 100,000 Female Population.	Proportion in Every 10,000 specified. Causes of Death.
1895	253	12	62
1896	220	9	63
1897	205	9	52
1898	227	10	59
1899	214	10	54

STATISTICS OF THE ROTUNDA HOSPITAL.—One may contrast these lamentable statistics with the following returns for the last two years of the practice of the Rotunda Hospital, the largest lying-in charity in the three Kingdoms:

MORTALITY AT THE ROTUNDA HOSPITAL FOR THE YEARS 1898-99 AND 1899-1900.

——	1898-99.	1899-1900.
Intern Maternity:		
Total cases	1,591	1,560
Total mortality	10	6
Percentage mortality	0.62	0.38
Mortality from sepsis (2 of these admitted septic)	5	0
Extern Maternity:		
Total cases	2,163	2,109
Total mortality	8	5
Percentage mortality	0.36	0.23
Mortality from sepsis	2	0
Total cases	3,754	3,669
Total Percentage	0.47	0.27

For two years the total was 7,423, and the percentage 0.39.

These figures he said should make those who are teachers feel how great is their responsibility, and that all efforts should be redoubled in urging upon students the importance of regarding the process of labor as a natural one, and not to be lightly interfered with unless Nature herself should fail, and that if interference becomes necessary they should use exactly the same antiseptic precautions that they see employed in any gynecological operation. It is by the observation of these two principles—the avoidance of meddlesome interference and by the rigid use of antiseptic principles—that the practitioner may hope that in the present century the occurrence of puerperal fever will eventually be as rare in private practice as it became in the nineteenth century in lying-in hospitals. The importance of early diagnosis of cancer of the uterus was dwelt upon. Any woman, he said, with abnormal hemorrhage at any age, and especially if she is over thirty-five years of age, demands the most careful clinical examination.

The Falling Birth-Rate.—During the present year the public press has been calling special attention to the falling birth-rate. It would appear that in England and Wales in 1861-71 the birth-rate per 1,000 was 34.8. In 1871-81 it was 34.7; in 1891 it was 31.4 per 1,000; and since that it has steadily gone down until in the last year of the century, 1900, it was only 29 per 1,000. In 1875 35 children were born in the United Kingdom for each 1,000 of the population, while in 1900 there were only 29. In other words, this means for our population of 41½ millions we are losing 249,000 children annually, and the birth-rate has fallen by 2.67 in the last ten years. The actual increase of the population of England and Wales is due to the fall in the death-rate and the increase of immigration. We are thus rapidly in England approaching the condition prevailing for some time in France and America. It was not for him at present to discuss the causes of this declining birth-rate; rather his duty was to ask what remedy can doctors suggest to combat a state of matters which, from a national and imperial standpoint, must be regarded as most unsatisfactory. If fewer children are in the future to be born in this country, efforts must be doubled to lower the high death-rate of infants, which during the first year of life amounts in England to 154 per 1,000, by teaching the people to pay much greater attention to rearing their children properly, and by urging the public authorities to provide an adequate supply of pure milk. Our American friends are far ahead in such matters, and they showed their usual extraordinary enterprise last summer, when they sent pure, non-sterilized milk from various parts of the States (Illinois, New Jersey, and New York) to the Paris Exhibition, where it was actually pronounced better than the average milk sold in the grounds. Quite recently "The Rockefeller Institution for Medical Research," founded by a gift of £40,000 from the millionaire whose name it bears, has decided that the first investigations to be undertaken

by the scientific experts connected with it will be to co-operate with the New York Board of Health in studying the milk supply and the contaminated article as a source of danger. But this serious problem may also be attacked in another way by taking greater precautions when a woman is pregnant that she may give birth both to a living and healthy child; in other words, more care must be taken to combat those conditions which are so dangerous to the child's life before and during its birth. It is still too frequently the practice of the present day, when a patient engages a medical man to attend at her confinement, simply to note the engagement, to give a few general directions, or perchance none at all, and perhaps in some cases, to examine the urine. Obstetricians should give a much more careful attention to patients who are pregnant, and especially in the case of those looking forward to their first confinement. A pregnant woman, when she engages a doctor to attend her, should be examined as carefully as if she were an applicant for life insurance; in this way he may at an early date detect a flaw in some of her organs (heart, kidneys, lungs, etc.), the knowledge of which may lead him to adopt a judicious prophylactic treatment. Patients should be instructed on such questions as diet, exercise, and management of the secretions; and a most careful examination should be made of the urine from the fourth month onwards, not merely as to the presence of albumen, but in reference to its total amount and the reduction of urea. In this way a form of toxemia (eclampsia), so fatal to mother and child, may from its early detection be carefully warded off, for it must be admitted that, in the vast majority of cases, the treatment of eclampsia, like postpartum hemorrhage, is its prevention. Toward the end of gestation a most careful abdominal examination should be made, so that the position of the fetus may be learned, the amount of liquor amnii, the presence or not of an abdominal tumor, and, if there is the least suspicion of deformity, the pelvic cavity should be most carefully measured. One must also guard against the dread influence of the syphilitic poison and the injurious effects of anemia. In the case of multiparæ, an accurate history of the previous pregnancies and labors is of the utmost importance. In this way, by a careful and if necessary by a repeated examination of the patient, by an early detection of complications, they may be warded off or kept in such abeyance that their danger is minimized; and, if there should be any deformity of the pelvis, the method of delivery best suited for each particular case may be decided upon. By all these measures one can hope that not only a living but a healthy child may be born, and that by careful management of the patient during and after her confinement no subsequent gynecological disease may ensue which so often gives rise either to a permanent sterility or to an early subsequent miscarriage.

Miscarriage, Prevention and Treatment.—Dr. P. Horrocks of London spoke of the different varieties of damage to the normal attachment between maternal and fetal parts, the fetal pathological conditions and the maternal diseases general or local. The things to be avoided, he said, were active exercises indoors or in the open, falls, blows, coitus, shocks, frights, bad dress, alcohol, hot sitz baths, emotional excitement and late hours. Things to be corrected were obstructions, inflammations, displacements, unsuitable diet, dyspepsia, flatulence and colic. Conditions to be treated were syphilis, fits, bad health, anemia, zymotic diseases, lacerations of cervix, and pyrexia. The lines of treatment were those commonly in use and described in textbooks.

Malignant Decidua.—Dr. Horrocks read notes on a case of this kind and exhibited specimens.

Cæsarian Section.—Dr. M. Munro Kerr of Glasgow said that the operation had been performed in the Glasgow Maternity between sixty and seventy times since April, 1888, that septicemia had been the cause of death in all the fatal cases, and that the infection had come by way of the vagina and cervix rather than by the abdominal wound. Preparatory cleansing of the vagina, therefore, was a prerequisite when this procedure was under consideration. The uterus was not drawn out through the wound; the incision was longitudinal and in the middle line. The patients were rendered sterile by tying the Fallopian tubes in two places and excising between.

SECTION OF TROPICAL DISEASES.

Advance in Knowledge of Tropical Diseases.—Dr. Ronal Ross of Liverpool prepared this paper, taking up in brief the advances made in a number of tropical diseases.

Yellow Fever.—The discovery of at least one mode of infection in yellow fever—a discovery of the highest importance to mankind—emanates from America. For some time past several of our American colleagues, stimulated by recent observations in connection with malaria, have sought an experimental verification of the hypothesis of Finlay and others, that yellow fever also is communicated by the bite of gnats. Insects fed on patients were subsequently induced to bite healthy persons who volunteered for the experiment. The results were negative until the gnats were kept for an interval of twelve or more days between the two operations. Success was now immediate. Drs. Reed, Carroll, and Agramonte record in their last report that out of seven non-immune persons subjected by them to the bites of infected mosquitoes, six yielded undeniably

positive reactions. At the same time, seven non-immunes whom they endeavored to infect by means of the fomites of patients under peculiarly favorable circumstances, remained in every case free from the disease. The experiments were conducted under the most stringently scientific conditions. Although the mosquito theory of yellow fever does not possess the parasitological basis of the mosquito theory of malaria, the differential observations of Reed, Carroll and Agramonte are of a nature to leave no doubt concerning the soundness of their conclusions. Some of the tests have involved great heroism on the part of those who were subjected to them. Since the death of Dr. Jesse W. Lazear we have to deplore that of Dr. Walter Myers, one of our most promising young pathologists, who lost his life from yellow fever when on a deputation from Liverpool to study that disease.

Ankylostoma Duodenale.—Another important advance is contained in the confirmation of Giles's life-history of the ankylostoma duodenale by Annett, details of which will shortly be published. These observations throw a vivid light on the route of infection adopted by these dangerous and widespread parasites.

Undulant Fever.—Owing to observations made by Wright on the serum reaction in undulant (Malta) fever, this disease has been shown to exist in India, Hongkong, the United States, the West Indies, and Brazil—a most important fact in connection with the great subject of tropical fevers.

Malaria.—The recent advance in our knowledge of malaria has been well maintained by numerous observers. The practical side of the mosquito theory, which at once became predominant after the determination of the life-history of the parasites, has been energetically treated by Koch and his assistants, who have successfully dealt with malaria on a large scale by means of quinine. Similar work has been performed with success in the United States, and in Italy. In British possessions isolated efforts to deal with malaria according to the new principles have been made by Sir William MacGregor and Strachan at Lagos, and by Thomson and Young at Hongkong; but the country generally has not adopted an intelligent attitude in this connection. On the other hand, British workers have closely studied details of the malaria question in many parts of the world. We must refer especially to the good work done in Central and West Africa by the Malaria Commission of the Royal Society, and to an admirable sanitary survey of Nigeria made by the Liverpool expedition during the last year. Direct cultivations of the parasites have been reported by Daniels, Ziemann, van der Scheer and van Berkelom, and Woldert in various countries—all in *Anopheles;* while Manson has completed an interesting crucial experiment for the popular demonstration of the theory by infecting healthy persons (T. Manson and Warren) in London by mosquitoes brought from Italy, and by simultaneously preserving others (Sambon and Low) in health in the Campagna in a mosquito-proof house. Nuttall and Shipley, Christophers and Dutton have closely examined the anatomy of gnats. Nuttall, Cobbett, and Strangeways-Pigg have made interesting researches on *Anopheles* in England, in which, by the way, cultivation experiments have hitherto failed. Gosio, Giles, Reinhold, Ruge, Fearnside, Neveu-Lemaire, and others have done useful work on the subject in many directions. It remains, however, a matter for regret that stronger efforts have not been made to determine the reason why individual gnats of an amenable species so often resist infection. Until this difficulty is cleared away negative experiments with *Culex* cannot be entirely convincing.

Filariasis.—In regard to filariasis the discovery of Low and James has been confirmed and amplified by several observers. Manson has suggested the possibility of reducing lymphatic varix by leading a lymphatic duct below the stricture into a neighboring vein.

SECTION OF STATE MEDICINE.

Statistics and Disease.—Dr. S. F. Murphy, President of the Section, read this paper, in which he advocated a closer attention to statistical information, since by such careful scrutiny many important hygienic deductions might be drawn which would prove of service to state medicine.

Sanitary Administration.—Dr. Bond of Gloucester opened a discussion on this topic dealing with local conditions.

Municipal and County Laboratory Work.—Dr. E. C. Steaton of London in his paper said that laboratory work entered more and more into the routine of public health and sanitary departments. In every large town there was a demand for bacteriological examinations for the general practitioners and also for hospital purposes. The sanitary authorities should pay attention first to matters concerning the public health and not to questions of commercial fraud. It was of more importance that the community should be protected from preventable diseases such as tuberculosis, measles, scarlet fever, typhoid, smallpox and malaria than to be told about and guarded against the lesser evils of glucose in candies, pumpkin rinds in strawberry jams and other matters of commercial adulteration in foods which while all too common are not of great moment after all.

Plague and Its Prevention.—Dr. D. S. Davies of Bristol read this paper, which embodied the central ideas of ship detention, killing of all rats, thorough disinfection, and prevention of interchanges between ship rats and shore rats.

(To be continued.)

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, Held Monday, May 20, 1901.

The President, Parker Syms, M.D., in the Chair.

Cancer of Larynx and Esophagus.—Dr. Francis J. Quinlan presented a set of specimens from a case of cancer of the posterior wall of the larynx, involving the esophagus. When the patient first came under observation the symptoms were very slight, but persistent despite treatment. Absolutely nothing could be seen in the laryngoscopic mirror. The course of the malignant neoplasm was entirely latent for a long while and the symptoms produced were very obscure. After a time the affection began to run an acute course and, finally, the tumor made its appearance at a time when the walls of the esophagus were already infiltrated.

Palliative Treatment.—Radical operation seemed out of the question since all of the malignant neoplasm could not be removed. The ligature of the carotid on the affected side was tried with the idea of starving the growth. Dr. Dawbarn ligated and extirpated a section of the carotid, but this failed to afford any measure of relief and after a halt for a short time in the course of the case, the neoplasm continued its invasion. In a certain number of reported cases, ligation of the carotid has under these circumstances done good in delaying the course of the new growth and making the patient much more comfortable.

Perineal Prostatectomy.—Dr. Parker Syms presented the specimen of an enlarged prostate which had been removed by perineal incision, using a special technic and instrumentation which he has devised. The patient was a man sixty-two years of age and for months had suffered from complete retention of urine. He had only succeeded in evacuating his bladder by the constant practice of catheterization. The bladder was very much distended and capable of containing some nineteen ounces of urine. Dr. Syms used his perineal bulb retractor in order to pull the bladder down. The bulb is inserted empty and is then inflated, when it is easy to secure the presentation of the prostate in the wound in the perineum. The operation as thus performed is very safe as the field of operation is in sight and there is constant opportunity for the operator to assure himself of just where he is working. Dr. Syms has used this instrument and method in nineteen cases. All of them have good function except one in which there had been some purulent complications before the prostatectomy was done.

Results of Operation.—Careful examination of the specimen as removed shows that no mucous membrane was cut away with the prostate and that consequently no part of the bladder or urethra was excised. This is an important point in the removal of the prostate, for strictural complications and relapses of the difficulty of urination, besides the danger of sepsis and infection, are liable to follow the removal of mucous membrane. The patient considers himself completely cured. He is able to retain his urine from four to six hours during the day and does not have to get up at night at all.

Prostatectomy Necessary.—Dr. Newman said in discussing Dr. Syms' case that an examination of the specimen shows that nothing but enucleation would have been of assistance in this case. The suprapubic route for the removal of the prostate is easier and more satisfactory than the perineal. Most of the work in the perineum must be done in the dark. The majority of patients are not satisfied to submit to enucleation of the prostate, though this is sometimes the only remedy for their urinary troubles. Practitioners should oftener suggest the removal of the prostate in certain of these cases, and gradually accustom patients to the idea that ultimate removal may be the only method of relieving their symptoms.

Simplified Prostatectomy.—Dr. Goulay said that Dr. Syms' instrument and his technic for the removal of the prostate has greatly simplified the perineal section in these cases. Dr. Goulay has always opposed the suprapubic method of operation for enlarged prostate. It adds to the danger of complications because of adhesions, the possibility of septic infection, the binding of the bladder to the abdominal wall by adhesions, and so forth. Dr. Goulay has seen two of the cases as treated by Dr. Syms and is very well satisfied with the method of treatment and the results.

Better than Bottini's Method.—Dr. Syms said in closing the discussion that this method of perineal removal of the prostate is in his experience better and more satisfactory than Bottini's operation. The tunneling of the prostate by means of the heated knife is liable to make an incomplete operation and is much less safe than the direct removal of the prostate by his method. After perineal prostectomy there is no temperature, no complication, no shock, and good drainage is provided. The mortality of the operation in reasonably expert hands is practically *nil.* The morbidity is very slight, the relief afforded is complete, and lasting. So far there has been no recurrence of symptoms.

Vaginal Route in Pelvic Disease.—Dr. J. Riddle Goffe said that all forms of gynecological work in surgery can be done by the vaginal route. Even surgical operations for cancer may well be performed in this way. At the present time and until surgical minds are made up as to what the result of complete clearing out of the pelvis in these cases will ultimately bring with it, the only operation that is indicated for cancer of the uterus is vaginal hysterectomy.

Even cysts of the ovary may be tapped and then the ovarian tissues drawn down and removed. Abscesses may be tapped and then all infected tissues removed much more safely and with much less danger of producing peritoneal infection than by the abdominal route.

Advantage of Vaginal Route.—One of the special advantages of operating by the vaginal route is the avoidance of all danger of hernia in the operation wound after the patient's recovery. No matter how carefully operations are done, no matter how expert the surgeon, a certain proportion of patients in whom an abdominal incision has been made will develop hernia. Besides this the scar in the abdominal wall is unsightly and in unmarried women particularly very undesirable. The operation on the vagina leaves absolutely no trace and a hernia has never been known to occur. It is practically impossible. After the operation the patient can go home at the end of the fourth week and perhaps even at the end of the third week. There is no need to wear an abdominal binder for months afterward, nor to wear a support for a long time.

Vaginal Fibroid Operations.—Most cases of fibroids can be operated on through the vagina. Whenever the tumor is confined to the true pelvis this is the route of election. If the tumor is large enough to go beyond the limits of the true pelvis, then operation through the vagina is too slow and difficult. It is not so much the patient as the surgeon who must be spared the labor of cutting up and removing so large a tumor.

Dermoidectomy Per Vaginum.—It is sometimes thought that dermoids should be operated on preferably by the abdominal route. Dermoid cysts may be punctured, however, a certain amount of their fluid contents evacuated, and then the tumors brought down for easy removal by the vaginal route. Dr. Goffe has removed even large tumors in this way with perfect satisfaction and without danger to the patient.

Low Mortality.—The most important features of operations *per vaginam* is the fact that the mortality of the procedure is in reasonably skilled hands practically *nil*. Drainage is always good, the danger of septic infection of the peritoneal cavity is very little and Nature is given a most favorable opportunity to throw off any septic material that may have gained entrance to hitherto uninfected tissues.

Double Salpingectomy.—Dr. William R. Pryor said that gonorrhea, it must be remembered, travels by continuity of tissue and not through the lymph-spaces, as does septic material. Consequently, if an abscess occurs in the tube on one side there is every reason to suspect the presence of infective material in the tube on the other side. The infection has come from the fundus of the uterus and very probably both tubes have been involved. If there is the slightest suspicious appearance in the other tube, it should be removed.

Complications Requiring Abdominal Operation.—In certain cases the abdominal rather than the vaginal route for operation must be chosen. When there are appendiceal complications for instance, the abdominal route is preferable because it is difficult to clear out an appendiceal abscess through the vagina. When gangrene of the colon has occurred as the result of purulent conditions, usually appendiceal in origin, then the abdominal route is better. In 189 cases under Dr. Pryor's treatment, during the last few years, 83 per cent. proved operable through the vagina. There remain a certain number of cases that cannot be operated by the vaginal method. We have learned in recent years that retroflexion of the uterus, especially where the vagina has become shortened as the result of the downward malposition of the uterus, should be let alone. No good is ever accomplished by the operation.

Technic of Vaginal Incision.—The incision for vaginal operative gynecology may be made through the anterior or the posterior fornix. The incision in Douglas's pouch gives better drainage while the patient is lying down and is the preferable method for most operators. There are men of large experience, however, who prefer to make their section between the uterus and the bladder.

Fibroidectomy.—As a general rule, it seems best not to operate upon fibroids except by complete extirpation of the uterus. The growth of fibroids seems to be due to a fibrosis or tendency to fibrotic growths. This is a sort of diathesis and though several tumors are removed, others may remain, the irritation of operation may cause them to increase in size and they will give symptoms which will compel removal later. If the tumor alone is removed the woman should always be warned of the danger of recurrent symptoms because of the growth of other fibroid tumors.

Etiology.—The growth of fibroid tumors occurs from embryonic foci, that is, from material included within the uterine walls that has never reached the full development destined for it during its embryonic period. These fibroid foci are awakened into activity by increased blood-supply to the uterus, or by some irritant that causes special developmental reaction in the tissues. Their growth is provoked therefore by pregnancy, or sepsis, or trauma. As a rule, then, uteri containing fibromata should either be let alone or radical hysterectomy should be done.

Anterior Dermoidectomy.—Owing to the position of the genital organs during the formation of the uterus and ovaries, dermoids usually occur anterior to the uterus. They are better reached, therefore, by an incision through the anterior cul-de-sac followed by stripping the vagina from the bladder. There is usually no difficulty in removing them through the vagina and plenty of room for this purpose can always be secured.

Ectopic Gestation and the Vaginal Route.—It used to be the custom to wait for pathognomonic symptoms in cases of ectopic gestation before suggesting operation. This often involves

serious danger for the patient. By the vaginal method an incision can be made that will at once decide how serious is the condition that is present. If the condition is found to be really one of extra-uterine pregnancy it can be cleaned out and the tissues left to take care of themselves. Parenchymatous oozing can be stopped by pressure, larger vessels can be caught and ligated and the operation can be rapidly completed. This is a very safe method of operating under all circumstances. In general the vaginal route has many advantages and very few disadvantages. It furnishes good drainage, decreases the risk for the patient, absolutely precludes all possibility of hernia and it leaves no ugly incision wound.

Vaginal Route Not New.—Dr. Brothers said that the vaginal route for gynecological surgery was suggested a good many years ago. Dr. T. Gaillard Thomas of New York did some vaginal work, but gave it up because of the technical difficulties involved. Gynecology through the vagina is not an easy proposition. It owes its present popularity to the work of Mackenrodt in Berlin who used it originally for vaginal fixation of the uterus. It is scarcely fair to take an estimate of the value of the vaginal route in gynecology from a surgeon who does most of his work by the vagina, nor, on the other hand, from one who does most of his by the abdominal incision. There are many conditions that may require either one of these methods of operation and their suitability can be best determined by a surgeon who does not confine himself to either form.

Experience in Both Methods.—Dr. Brothers has had an experience of about one hundred operations by each route. There are many advantages attached to vaginal operation, but it requires special expertness. It is not so easy as operation by the abdominal route, because of the limited field of operation. By the abdominal method blood-vessels are under the eye and give no cause for disquietude. In the vagina oozing occurs, especially in certain patients, and the free bleeding makes nice operating extremely difficult. There is no question that the vaginal route is less dangerous. Dr. Brothers' mortality has been *nil*, but this is not true of all vaginal operators. Dr. Brothers knows of two recent deaths.

Indications for Abdominal Operation.—Pus tubes, because of the presence of abdominal adhesions, should always be operated on through an abdominal incision. In these cases the adherent intestines are apt to make the ovarian region not easily accessible. If there are appendicular complications the abdominal route should be chosen. Dr. Brothers has operated upon 85 cases of pus tubes, 25 of them *per vagina*. He employs the latter method of operating less, however, as his experience increases. The practitioner should not require the surgeon to do a vaginal operation, unless the surgeon's own judgment and his expertness in this method of operating make him adopt it for himself in any particular case.

Spread of Gonorrheal Infection.—Dr. Delphey said that there is undoubtedly more shock in operations through the abdomen than through the vagina. For this reason, if no other, the vaginal route should be chosen whenever possible. Surgeons who operate should consult not their own ease, but the safety of the patient. With regard to the spread of gonorrheal infection, the occurrence of buboes shows that the gonococcus may spread through the lymph as well as by continuity. It is true that most cases of so-called gonorrheal buboes are really examples of secondary infection, but in a certain number of cases pure cultures of the gonococci were found in the pus from these inguinal lesions.

Presence of Adhesions.—In closing the discussion Dr. Goffe said that the presence of adhesions is not an indication for operation through the abdomen. As a rule, it is much easier to break up adhesions from below. In order to free organs it is usually necessary to get beneath the mass in order to lift it up. It is much easier to do this from the vagina. The lines of cleavage are not here so hard to find. Undoubtedly operation *per vaginam* requires special experience. This experience is not, however, so highly specialized as is sometimes said. Then the only reason for the specialist is the possibility of greater conservatism. Any general surgeon can remove diseased tissues. It requires the special experience of the gynecologist to decide how much shall be removed and how much can with safety be allowed to remain.

Abdominal Gunshot Wounds.—Dr. Henry Roth read a paper on penetrating gunshot wounds of the abdomen without injury to the abdominal contents. It is an established fact that penetrating wounds of the abdomen may occur without any injury of the intestines or other viscera. Malgaigne doubted this. Larrey was sure that he had seen one case. During the Civil War nine such cases occurred and Stimson has reported some cases. In one of Stimson's cases the wound was made three inches to the left of the umbilicus; only a small amount of blood excluded, no inflammatory reaction occurred, and the patient made an uneventful recovery. In another case the wound was made one inch below and to the left of the umbilicus and the bullet from a 32-caliber revolver was extracted from the muscles of the back at a point about three to four inches above the iliac crest. In a third case the wound was made by a 44-caliber revolver. It was in the right hypochondrium; an abdominal section was made, but no serious visceral penetration was found. The bullet had passed so close to the intestine as to wound the serous and muscular coat, but it had not perforated the bowel, the mucous membrane remaining intact.

Dr. Roth's Case.—The patient wounded himself with a 22-caliber revolver. The bullet passed through his hand before entering his abdomen. This made it very difficult to decide the direction which the bullet took, and no traces of it could be found. After the shot the patient vomited some, but there was very little pain.

There was slight bleeding and the family physician thought it advisable to probe for the bullet. He failed, however, to find any trace of it. After twenty-four hours as the patient was still restless, it was deemed advisable to send him to the hospital. On admission his temperature was 100.6° F., his pulse was about 110; his urine was normal. There was no constipation nor tympanites, and there had been no bleeding since shortly after the infliction of the wound.

Track of the Bullet.—The wound in the abdomen was situated below and one inch to the right of the umbilicus. There was slight tenderness in the neighborhood of the wound, but none over the rest of the abdomen and there was no distention. A director introduced into the bullet wound seemed to show that the bullet had passed downward. It was deemed safer under the circumstances to do a laparotomy. When an abdominal incision was made it was found that the director had made a false passage. The track of the bullet could be followed very closely by the discoloration produced by its passage. The peritoneum was wounded slightly, but direct evidence of penetration could not be found and the abdominal cavity seemed to have been opened by the probe. No wound of the omentum was found, no injury of the spleen had occurred, as could easily be determined, for there had been little intraperitoneal bleeding. There was some hemorrhagic effusion into the peritoneum, but there were no evidences of peritonitis nor of any infection of the peritoneal cavity by intestinal contents.

Treatment and Result.—The abdominal cavity was washed out with a large amount of hot saline solution and then closed. The patient made an absolutely uneventful recovery, all temperature and restlessness disappearing shortly after the closure of the abdominal incision. About two weeks after his admission to the hospital he was about to go out when a final examination disclosed the location of the bullet. It was found in the abdominal wall of the opposite side imbedded in the abdominal muscles. It had not penetrated the abdominal cavity, but had only wandered between the layers covering the abdomen. It was removed under local anesthesia.

Practical Conclusions.—In military surgery there is neither the time nor, as a rule, the proper aseptic precaution needed for prompt operation upon the abdomen. Therefore the practical rule followed in military surgery of treating wounds of the abdomen expectantly seems a good one. In civil life, however, it seems more advisable to open the abdomen, follow the bullet and determine what injuries have been inflicted. Usually some injury of the abdominal viscera will be found, and laparotomy is therefore called for as soon as the patient rallies from the primary shock. Valuable aid will be given the surgeon by the discoloration produced by the bullet. Aseptic laparotomy adds very little to the danger—in fact, it can scarcely be said to add materially to the patient's risk. In the great majority of cases, however, prompt interference will be needed and will save life. A surgeon should not delay for conclusive symptoms of peritoneal involvement, for this always implies a serious risk to the patient, and it will often be impossible to save life under these circumstances.

Wound of Mesentery.—In discussing Dr. Roth's paper, Dr. Goulay said that he has found an encysted bullet in the mesentery of a subject in the dissecting-room in a case in which there had been no injury of the intestines. The wound of entrance into the abdomen had been directly in front, so that somehow the bullet succeeded in finding its way between the coils of intestine. Of course, other such cases have been reported.

Danger of Probing.—Dr. Gallant said that Dr. Roth's case emphasized very clearly indeed the necessity for letting gunshot wounds alone. They should not be probed. If treated as a superficial wound by aseptic sealing, it will heal promptly. He has never seen a gunshot wound suppurate that had not been probed. Especially abdominal wounds must not be probed. If anything is to be done, free incision should be made, but no attempt should be made to follow the track of the bullet with a probe.

THERAPEUTIC HINTS.

The Nasopharynx in Scarlatina.—A grave danger to scarlatina patients is the invasion of the nose by streptococci and their associates. The visible pharynx is disinfected every hour with

℞ Tinct. iodi. ..... 2.0 (ʒss)
Potass. iodid. ..... 1.0 (ɱxv)
Ac. carbol. ..... 0.7 (ɱx)
Aq. q. s. ad. .....120.0 (ʒiv)

This may safely be given in teaspoonful doses to a one-year-old child for several days. The infiltrated mucosa should be irrigated with 1- to 5-per-cent. ichthyol solution every six hours. When the pharyngeal obstruction will not allow of efficient irrigation, a 50-per-cent. alcoholic solution of resorcin, introduced on each side of the uvula, will often be sufficient to open the passage and permit of easier breathing and proper irrigation.—A. Siebert in *Archives of Pediatrics,* Aug., 1901.

Impetigo Contagiosa.—Scrub the affected part with warm water and soap, and cover with five-per-cent. carbolized vaseline, or five-per-cent. carbolic zinc ointment, or half strength ointment of ammoniate of mercury. If many crusts, remove by soaking with hot oil or water before applying the ointment. In the bullous form prick the bullæ at their most dependent part to let the fluid escape.—G. T. Jackson in "Diseases of the Skin."

Umbilical Hemorrhage in Babies.—The arterial power being greatest in the abdominal cavity and near the umbilical ring, the cord must not be cut near the body. Two ligatures are a fair preventive of hemorrhage. Tight bandages

should be avoided. If the cord is cut too short or torn off, and the vessels cannot be secured and tied, two harelip needles may be run through the abdominal wall, and a strong ligature tied beneath them. Moderate compression of the wound, which has been covered with iodoform or salicylic-acid and starch powder and borated cotton by means of a bandage, will serve well. In hemophilia, plaster of Paris has sometimes proved successful and also the actual cautery. Ligation by a running suture is often useless, on account of bleeding from the stitch-channels.—A. JACOBI in "Therapeutics of Infancy and Childhood."

Influenza.—For the influenza as such there is no treatment. The headache, if dependent on inflammation of the frontal sinuses, can be relieved by local application to the nose. For the general headache and pains, phenacetin, in doses of gm. 0.3 (gr. v) every two hours, is the most reliable drug; of less efficacy are antifebrin, antipyrin, morphine and the bromides. The inflammations of the pharynx and tonsils may be alleviated by the local application of cocaine and the internal use of aconite and sodium salicylate. For the bronchitis and pneumonia we employ the ordinary methods of treatment, except when there is a disposition to general venous congestion and failure of the heart's action. In these cases attention to the condition of the circulation is of the greatest consequence. Good results may be obtained by digitalin, mg. ⅛ (gr. $^1/_{500}$), aconitine, mg. ⅙ (gr. $^1/_{375}$), and whisky. For the gastritis we employ small doses of morphine, cocaine, gm. 0.006 (gr. $^1/_{10}$), or sulfonal, gm. 0.2 (gr. iv), mixed with milk. No matter how irritable the stomach may be, I do not believe it wise to let the patients go for many days without feeding them by the mouth. Feeding by rectum amounts to very little for these patients. Colitis is to be treated by rest in bed, restricted diet, and a little opium.—FRANCIS DELAFIELD.

Melena Neonatorum.—The quantity of blood evacuated from the bowels is sometimes enormous, particularly as the blood of the newborn constitutes only five per cent. of the baby's weight. The cases complicated with vomiting are the worst, and are found to have stomach or duodenal ulcers. Competent respiration and an aseptic umbilical wound are the best preventives. The treatment consists of tincture of chloride of iron in drop doses, ice to epigastrium, warmth to limbs, and the administration of food at a low temperature.—A JACOBI in "Therapeutics of Infancy and Childhood."

Erythema Exudativum Multiforme.—Villemin maintains that iodide of potassium, at least gm. 2.0 (gr. xxx) a day, is almost a specific and will abort relapses. Quinine, gm. 1.0-2.0 (gr. xv-xxx), and sodium salicylate, gm. 3.0-4.0 (gr. xlv-lx), a day sometimes abort or check the disease. Arsenic may be tried in chronic cases. The treatment is mainly symptomatic, and directed to relieving constipation, regulating diet, aiding digestion, ameliorating rheumatism or toning up the system. In obstinate cases the patient should be put to bed. Locally, any alkaline solution will afford relief such as

℞ Pulv. calamin. prep. ... 3.0 (gr. xlv)
Zinci oxid. ..... 2.0 (gr. xxx)
Liq. calcis ad. ..... 60.0 (℥ii)

Or liquor plumbi subacetatis diultus, or lead-and-opium wash. Sometimes a simple dusting-powder will do. In erythema nodosum rest in bed is essential and salicylates are especially indicated. —G. T. JACKSON in "Diseases of the Skin."

Etiology of Whooping-Cough.—In expectorations taken from a large number of cases of whooping-cough G. JOCHMANN (*Ctblt. f. Bäk.*, July 12, 1901) has found small, influenza-like bacilli which can be divided into separate classes by their relation to Gram's stain. In this way he accounts for the divided views of observers in regard to the biological properties of the rods seen in this kind of sputum. He thinks that the bacillus found by Czaplewski and Hensel is not the cause of pertussis, as he only found it in four cases and, moreover, it cannot be cultivated on blood-agar. In eighteen cases of pertussis he has isolated a bacillus which grows exclusively on culture media containing hemoglobine.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

LECTURES ON THE HISTORY OF PHYSIOLOGY DURING THE SIXTEENTH, SEVENTEENTH AND EIGHTEENTH CENTURIES. By Sir M. Foster. 8vo, 310 pages. Cambridge, University Press.

CLINIQUES MÉDICALES ICONOGRAPHIQUES. Par MM. P. Haushalter, G. Etienne, L. Spillmann and Ch. Thiry. Fascicule. Quarto, 48 pages. Illustrated. G. Carré et C. Naud, Paris.

REPORT OF SANITARY INVESTIGATIONS OF THE ILLINOIS RIVER AND ITS TRIBUTARIES. Illinois State Board of Health. 8vo, 219 pages. Springfield, Ill.

SURGICAL APPLIED ANATOMY. By Sir Frederick Treves. New Edition. 12mo, 572 pages. Illustrated. Lea Brothers & Co., Philadelphia.

THE DIAGNOSTICS OF INTERNAL MEDICINE. By Dr. Glentworth Reeve Butler. 8vo, 1,059 pages. Illustrated. D. Appleton & Company, New York.

A MANUAL OF SURGICAL TREATMENT. By Drs. W. Watson Cheyne and F. F. Burghard. Vol. V. 8vo, 470 pages. Illustrated. Lea Brothers & Co., Philadelphia and New York.

ESSENTIALS OF DISEASES OF THE EYE. By Dr. E. Jackson. Saunders Question-Compends, No. 14. W. B. Saunders & Company, Philadelphia and London.

BULLETIN OF THE DEPARTMENT OF LABOR. No. 35, July, 1901, Washington.

THE MUSHROOM BOOK. A Popular Guide to the Identification and Study of Our Commoner Fungi, With Special Emphasis on the Edible Varieties. By Nina L. Marshall. 8vo, 167 pages. Illustrated. Doubleday, Page & Co., New York.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Vol. XIII. Published by the Association.

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ORIGINAL ARTICLES.

FURTHER NOTES UPON THE DIAGNOSTIC TEST OF TUBERCULIN.[1]

BY EDWARD O. OTIS, M.D.,
OF BOSTON.

AT the meeting of this Association in 1899 I presented a series of tuberculin tests, published in the Transactions of that year. I have now to present sixty-two additional tests undertaken with two objects in view, namely, (1) to determine how many cases of known syphilis react to tuberculin, and (2) to determine how reliable the test is in suspected or incipient tuberculosis both of the lungs and of other organs or portions of the body. The tuberculin used was Koch's original, imported and diluted as used to a one-per-cent. solution, one-tenth of a cubic centimeter of which solution being one milligram of the original product. The patients were those of an ambulatory clinic, but from former experience I have learned that results so obtained are reliable, and such also was the experience of Dr. R. C. Cabot, who pursued a similar course in his series of tests referred to in my previous paper.[2] Fränkel has also recently declared that the test could be satisfactorily made under these circumstances.

In none of the cases herewith reported were there any serious or alarming symptoms as a result of the injection, so that I am still further confirmed in my opinion previously expressed, that no injurious results follow the diagnostic test of tuberculin in doses up to ten milligrams. There was invariably a little soreness complained of at the point of injection for one or two days following. In most cases the general reaction only was depended upon, but I am inclined to think that there are some few cases of tuberculosis which, for some reason or other, do not give any general reaction, but do give a marked and definite local one, as in No. 4. The dose was two, five, seven, or ten milligrams, never over ten. All the cases were practically afebrile at the time of the injection.

TUBERCULIN TEST IN SYPHILIS. TABLE I.

No.	Condition and Stage.	Sex.	Age.	Temp.	Pulse.	Dose. in mg's.	Result.	Temp. at reactive epoch.
1	Syphilis; early stage	M.	23	98.6	102	5	No reaction	97.2
2	" pustular syphilide on skin	F.	20	99.3	88	2	" "	
3	Late syphilis; tubercular syphilide	F.	37	99.1	76	2	" "	98.4
4	Syphilis; no active manifestions	M.	28	98.5	72	8	" "	99.5
5	" few small papules in brows	M.	34	98.7	100	8	" "	98.4
6	" early secondary	M.	29	99.4	80	5	" "	99.2
7	Early syphilis	M.	30	99.	88	5	" "	98.4
8	" " abundant eruption	F.	19	99.8	120	5	Reaction	102.5
9	Syphilis; late manifestations	F.	29	99.9	96	2	No reaction	99.
10	" old; no acute manifestations for several months	F.	29	98.8	96	2	Abortive reaction	99.
11	Probable syphilitic lesion on cheek	M.	9	99.	86	2	No reaction	99.8
12	Early syphilis; abundant eruption on body	M.	28	98.2	88	5	" "	99.
13	Syphilis of years duration	F.	23	98.4	96	3	Reaction	104.
14	Early syphilis	F.	40	99.6	96	5	No reaction	98.4
15	" "	F.	22	98.9	100	5	" "	99.2
16	" "	F.	21	98.3	92	5	" "	96.3
17	" " mucous patches	M.	18	97.8	80	5	" "	98.9
18	" "	M.	.....	99.4	92	5	Abortive reaction	99.7
19	Late syphilis; gummatous lesion	M.	.....	99.	80	5	No reaction	99.
20	Early syphilis; mucous patches	M.	.....	97.4	76	5	Abortive reaction	99.5
21	" " initial sore on chin	M.	.....	98.	78	5	Moderate reaction	100.6
22	Late syphilis	M.	27	98.1	64	5	No reaction	99.5
23	" "	F.	20	99.2	92	5	" "	99.2
24	" "	F.	43	98.6	76	5	" "	99.3
25	Early syphilis	F.	31	99.6	104	5	Reaction	100.2
26	Late "	M.	37	98.4	88	10	"	101.3
27	Early "	M.	28	99.	72	10	"	100.8
28	" "	M.	28	98.2	76	10	Abortive reaction	99.
29	Late "	M.	46	98.	96	10	No reaction	98.4
30	Early "	M.	38	98.4	80	10	" "	99.8
31	" "	M.	29	99.	108	10	" "	99.4
32	" "	M.	39	98.4	72	10	" "	99.
33	" "	F.	25	99.4	96	5	" "	99.2
34	" "	F.	20	98.4	88	5	" "	98.5
35	" "	F.	37	99.1	78	5	Abortive reaction	100.
36	" "	F.	43	99.4	108	7	No reaction	99.5

[1] Read before the American Climatological Association, at Niagara Falls, May 30, 1901.

[2] "Polikliniken für Lungenkranke," Zeitschrift für Tuberkulose und Heilstättenwesen, April, 1901.

If from six to twenty-four hours after the injection there was a rise of temperature and the patient complained of marked weakness, sensations of heat and cold, nausea or anorexia, pain in the back and limbs, headache, sweating, either sleeplessness or somnolence, a general "miserable" feeling, a reaction was considered to have taken place. I do not think that any special temperature can in itself be relied upon without some or all of these other symptoms. Sometimes a slight rise of temperature was accompanied by marked constitutional disturbance. Each patient was given a thermometer to take home and requested to hold it under the tongue for five minutes at six o'clock at night, upon going to bed and in the morning on getting up, and then to report the following forenoon. In this way the maximum temperature was obtained at whichever of these three periods it occurred. As the class of patients were more or less ignorant, no attempt was made to teach them how to read the thermometer, the plan just stated was considered a surer, as it was a simpler, one.

The diagnosis of syphilis was carefully made by Dr. C. M. Smith of the Skin and Syphilis Department of the Boston Dispensary, and I desire here to express my thanks to him for so kindly furnishing me with the material for these tests.

First, I present thirty-six cases of the tuberculin test in syphilis or, throwing out No. 11, the only doubtful case, thirty-five. The smallest amount of tuberculin used was two milligrams, the largest ten milligrams. There were six undoubted reactions and five what I have called abortive reactions, in which there were temporary symptoms of a reactive nature, but which I do not think could be called genuine reactions. Considering only the six undoubted reactions we have 17 per cent. of reactions; including the abortive cases, we have 31 per cent.

In the discussion upon Dr. J. M. Anders' paper upon "The Value of the Tuberculin Test in the Diagnosis of Pulmonary Tuberculosis," presented to this Association last year, Dr. Baldwin quoted Beck as showing in his experiments that about one-half the cases of syphilis in which he used the injections reacted to tuberculin. My cases give a much smaller number, only about one-sixth or at most less than one-third. From my experience I cannot think that, however large the number of cases experimented upon, as large a proportion as one-half, or anything near that number, would react. Still, in using the tuberculin test we must always bear in mind the fact that syphilis at whatever stage does give a reaction. Further, there does not seem to be any guide in the activity or quiescence of the syphilitic infection, as to whether or not a reaction is likely to occur. In the most violent reaction I had, in which the temperature went up to 104° F., the case was one of many years' duration and with no active manifestations.

TUBERCULIN TEST IN SUSPECTED OR PROVED TUBERCULOSIS. TABLE II.

No.	Condition.	Sex.	Age.	Temp.	Pulse.	Dose in mg's.	Result.	Temp. at reactive epoch.
1	Suspected tuberculosis of urinary passages	M.	40	99.	74	5	No reaction	98.4
2	Suppurating cervical glands, both sides; dulness over left apex	F.	20	99.5	112	2	Reaction	103.
3	Cough, slight dulness in right back	F.	23	99.8	100	2	No reaction	97.
4	Dulness above and below left clavicle; moist râles; t. b. in sputum	M.	52	99.4	100	2, 5, 8	No general reaction. Marked local reaction with 8 mg.	99.8
5	Dulness over right apex, bronchial resp.; few moist râles on cough	M.	39	99.2	68	5, 8	No reaction	96.
6	Suspected renal tuberculosis	M.	19	98.4	64	5	" "	98.4
7	Fine moist râles below left clavicle; diminished resonance, prolonged exp.; t. b. in sputum	F.	38	98.6	81	7	" "	99.6
8	Dulness left axilla, few moist râles on deep inspiration	M.	28	97.8	62	10	" "	99.6
9	Suspected renal tuberculosis	M.	36	98.8	80	5	" "	99.5
10	Moist râles at both apices	M.	30	98.8	70	8	General and local reaction	101.3
11	Suspected tuberculosis of wrist	F.	40	98.6	74	5	No reaction	98.4
12	Suspected tubercular laryngitis	F.	23	100.	99	5	" "	99.8
13	Lupus of face	F.	29	99.	114	5	General and local reaction	101.2
14	Suspected tuberculosis of anus	M.	50	98.8	80	5	No reaction	98.4
15	Dulness at right apex	M.	42	98.4	80	10	" "	98.4
16	Suspected tubercular epididymitis	M.	30	99.5	90	10	" "	
17	General tuberculous condition; few fine moist râles above spine of scapular in left lung. General evidence of tuberculosis; a few dry râles	M.	41	100.2	100	5	Reaction	102.1
18	below left clavicle; harsh respiration	M.	39	99.6	105	7	"	101.2
19	Suspected tuberculosis of finger and hand	M.	3	99.8	110	1	No reaction	98.
20	Dulness above and below left clavicle; fine râles after cough; harsh respiration	M.		98.3	72	7	" "	97.1
21	Syphilis or tuberculous laryngitis	F.	16	99.1	104	2	Reaction	100.2
22	Suspected tuberculous laryngitis	M.	56	97.5	72	5, 10	Abortive general reaction, local reaction	98.
23	Suspected tuberculosis of septum of nose	F.	40	97.7	88	5	General and local reaction	101.7
24	Few fine moist râles at left apex	M.	52	98.7	90	10	Reaction	103.
25	Dulness over both apices, moist râles, consolidation on right side; t. b. in sputum; fistula in ano.	F.	22	99.2	112	5, 10	No reaction	98.6
26	Possible tuberculous infection at the right apex	M.	39	98.2	72	10	" "	98.

Second, I have twenty-six cases of suspected or proved tuberculosis which give some interesting and perplexing results. Taking the eight cases in which the physical examination showed sufficient evidence of tuberculosis or in which tubercle bacilli were found in the sputum, we have four reactions and four failures to react. In the three cases in which tubercle bacilli were found in the sputum, two did not react; in one 7 milligrams were used, and in the other 5 and 10 milligrams. In the third case in which 2, 5, and 8 milligrams of tuberculin were successively used, only a local reaction was obtained. I have no explanation to offer for these unexpected and disappointing results. Of the remaining eighteen cases of suspected tuberculosis, there were six reactions and twelve failures to react. In no one of those cases which failed to react could tuberculosis be more than suspected, with greater or less probability, by the physical examination. The case of lupus of the face besides giving a general reaction showed a very pretty local one. In a case of chronic laryngitis in which either syphilis or tuberculosis might have been the cause, a reaction was obtained, thus leaving the origin doubtful as before. In using the tuberculin test for suspected tuberculosis, experience would teach us to look carefully for syphilis.

"One swallow does not make a summer," nor should one be discouraged by a few failures, yet I must confess that when a case of tuberculosis not far beyond the incipient stage, with tubercle bacilli in the sputum, fails to react, one's confidence in the test is temporarily at least a little shaken, but it is well to bear in mind that in all such investigations as the above there is always a chance of error, and as yet we do not know what the minimum efficient dose is, and not unlikely it may vary for each individual. One thing I feel sure of—that up to ten milligrams, there is no injurious result to be feared.

A STUDY OF BURNS, WITH A PLEA FOR THEIR MORE RATIONAL TREATMENT.

BY FREDERIC GRIFFITH, M.D.,

OF NEW YORK;

SURGEON, BELLEVUE DISPENSARY; FELLOW OF THE NEW YORK ACADEMY OF MEDICINE.

THIS article is written to arouse interest in a class of surgical injuries which the writer believes are neglected.

The reaction of the body to high degrees of heat in the form of flame or molten metal, boiling fluid, escharotics or electricity, resulting in injuries varying in severity, is the cause of their desultory treatment.

Burns and scalds are the commonest injuries of the body and Holmes ranks them as the most commonly fatal; Cheever of Harvard state that more than three-fourths of all burns occur in children; this I consider too sweeping a statement, although that of one-third to one-half of all deaths given as occurring in the young may well be accepted: A burned child has less vitality to combat such injuries than a grown person and will, therefore, more often succumb.

Of predisposing causes winter months and occupations are foremost in importance. Workers in rolling-mills, blast-furnaces, oil-refineries and coal mines are particularly exposed. In the south, where sugar boiling is carried on extensively and in the turpentine camps many burns result. In large cities where steam laundries are common a peculiarly distressing form of burn occurs. The ironing machine consists of two rolls superimposed; the upper one cold the lower one hot. A common accident is for the "feeder's" fingers to be drawn between the revolving rollers resulting in a crush and a burn of the hand; the burned area being always upon the flexor surfaces of the fingers and palm.

In the arts and trades where escharotic acids and alkalies are used many burns result which are notable for tenacious eschar formation. Electricity, finally, must be added as a common source of burned wounds. They are characterized by death and instantaneous formation due to the intensity of the heat. The wounds present a clean-cut edge, with no redness, and become covered with a brownish eschar; owing to the depth, healing is slow and the scars left are very plain. Hutchinson reports a case in which a very severe electric burn occurred in an individual of such rapid formation that the clothing was not scorched. In this connection so-called burns following X-ray examinations may be mentioned. Prof. Roentgen's dogma that the X-ray is non-calorific has not been disproven.[1] Any case of burn which has resulted from the use of this latest and greatest appliance of electricity to medical science has been due to the heavy electric currents employed in the generation of the X-ray and not to the X-ray itself.

Burns of the throat and nasopharynx are common and always of serious import. Scalding from hot vapors or fluids, when severe cause rapid edema of the mouth, nasopharynx and the larynx as low down as the vocal cords, followed by a gradually increasing dyspnea, until asphyxiation causes death. Cases which are stated to have died from inhalation of flame have really been asphyxiated by smoke, noxious gases of combustion or mechanically suffocated by direct action of the flame. The presence of carbonaceous matter in the mucus contained in the larynx and trachea proves the inhalation of smoke. In such cases the blood is found of a bright red color, as are all the viscera, with large quantities of bloody fluid sometimes found in the arachnoid spaces, death having been caused by carbon-diox-

[1] Recently William Roelins sought to show that the X-ray does produce heat effects. A strong male guinea-pig, placed in a grounded Faraday chamber and exposed to the X-ray two hours daily, died upon the eleventh day of the experiment. A second guinea-pig died on the eighth day after a like exposure. In neither instance were external burns found. From the results of these two experiments Rollins considers that there is an ever-present danger in the use of the X-ray. He advises the physicians to wear glasses of the most non-radiable material that is transparent when using the flouroscope. For the better protection of the patient he would have the X-ray tube covered by non-radiable box from which no X-rays escape, excepting the cone of rays which covers the area to be examined or photographed. The patient should be covered by similar material excepting only the necessary area for examination.

ide poisoning. When in addition the blood is found fluid, high heat has been present. The quickness with which death comes after burns of these parts is well shown by the history of a case reported by Dr. Cleaves of a strong young man who inhaled powdered lime. The symptoms began with coughing and violent pain coming on almost immediately and requiring opiates to subdue. The throat and mouth became edematous, congestion of both lungs took place, moist râles being heard all over the chest. Diarrhea and delirium, with a temperature of 104.5° F., came on with death at the end of 48 hours. Dr. Cleaves thought that the lung congestion was due to a progressive inflammation beginning in the throat, lime particles not entering the bronchi.

E. Schmidt in his report of a case shows the rapidity of action of a scald of these parts in a child, aged three years, who tried to drink from a long-spouted, boiling tea-kettle. The child died next day from paralysis of the heart, following a left-sided pneumonia. Upon postmortem examination the mouth and pharynx were found normal, due to the length of the spout, compelling the child to throw his head back for suction. The entrance of the steam or boiling fluid caused an attempt to scream which demanded a deep inspiration of air and the hot fluid. The epiglottis was thickened and the mucous membrane covering it necrotic. Upon the ridge of the larynx where it joined the esophagus a cresentic necrosed area was found.

According to Dr. Posey lime burns are the most common and the most severe of burns of the eye. The danger lies in the quick chemical change which takes place, accompanied by high heat.

Burns about the mouth, eyelids and the neck are important from the amount of deformity which occurs due to the contraction of the healing wounds. Where the eyelids especially are involved in the cicatricial tissue, eversion or drawing of the lids and displacement of the lacrimal canaliculi occur. This allows the tears to run down over the cheeks because of a continuous conjunctival inflammation due to dust particles which find an easy entrance to the sac. When the mouth is drawn, constant dribbling of saliva and impediment to speech follow as a consequence. Hot liquids, alkalies, and acids swallowed commonly result in esophageal constriction, with accompanying contractions of the stomach if disintegration of that organ does not at once occur as a result of the direct action of the heat agent.

Burns occurring over the large joints, serous cavities or the bladder, are especially capable of producing great internal reaction as the internal organs must take on the extra work of the destroyed skin. Serous inflammation is more common than mucous inflammation after burns and Heath points out that a burn over the front of the body is more serious than one over the back. The extent of area is also more important than the depth of the injury; Druitt observes that extensive burns even of small severity are always dangerous. A burn over the belly is often followed by peritonitis or enteritis; Dr. Smith has reported the case of a woman burned upon the abdomen over an area of five by seven inches. Symptoms of peritonitis developed, and suppression of urine occurred. There was no movement of the bowels for a period of eight days. At the end of this time the wound became perfectly clean and at once all untoward symptoms passed away.

Burns over various parts of the body have at times caused abortion, also placenta previa as a result of the nervous shock; one case being reported of a woman burned over her belly, who was in the seventh month of pregnancy, at the time of the accident; on the fourth day acute peritonitis set in lasting four days; upon the eighth day, when the woman had nearly recovered from the inflammatory complication, labor set in and in seven hours she gave birth to a dead child. Upon examination bullæ were found upon the fetus.

Dr. S. P. Crawford reports a markedly similar case:

Inflammation of the lungs, pleuræ or bronchi following burns of the chest are common.

Brush burns and grazing missile wounds are often very like direct heat injuries; Mr. Horman says of the latter that they give an appearance to the skin as if it had been burnt by a hot iron rod. This is due to the removal of the superficial epiderm which exposes the true skin which turns brown after a few hours.

A peculiar complication resulting after a burn occurred in a patient of Dr. West's. A man, intoxicated, in falling, set fire to some fuses in his pocket and was burned over the lower part of the abdomen, the genitals and thighs as low down as the knees. The patient recovered, but with an extreme condition of phimosis.

A case of tetanus is reported by Dr. Godfrey as occurring in a man burned with phosphorus over the chest, hands and groin; symptoms began on the tenth day, with death in forty-two hours.

Fenwick speaks of a tendency to scarlet fever in children after burns. Two cases out of every eight observed by him developed the rash, throat, tongue and temperature symptoms of scarlet fever on or about the fourth day.

The commonly accepted designation of the severity of burns is that of Dupuytren, who made an anatomical classification of six degrees. Some surgeons, as Stephen Smith, Heath, Keen, Warren and White, make but three divisions, differing from him in that the burns of a severe type are grouped as one; while Gross divided them into complicated and uncomplicated, believing that it is owing to the many divisions into degrees of severity that so many forms of treatment exist (Holmes states that the treatment of burns is a subject upon which many books have been written and perhaps more numerous remedies recommended than in any other branch of surgery) and that by simplifying their description,

surgeons would become more uniform in their treatment.

I would divide burns into two classes, (1) all those which affect the skin, from slight inflammatory reaction following a scorch to destruction of the true skin; (2) all others, thus making involvement of the true skin the dividing line. The two classes may occur on the same person due to the difference in temperature toward the edges of the agent producing them.

The reaction of tissues to burns varies from the faintest browning of the glow of redness from a flame scorch, to black carbonization of the parts.

The variable effects constitutionally may be shown by a description of two contrasting cases which I saw in the Pennsylvania Hospital. A young woman was brought in burned over her whole body, excepting the palms of her hands which she had clenched. The burn was very superficial; her eyebrows, eyelashes and hair were but singed and over her body the burn extended no deeper than the epiderm. The woman in her night dress had upset a lighted lamp on the bed-clothes and though but a flash of flame thus momentarily enveloped her as she sprang from the bed, she died within four hours, shrieking her agony until subdued by morphine. The other case was that of a similarly caused accident to a man confined to bed with a rheumatic attack. He was deeply burned through the skin, subcutaneous tissue and fascia over his back from shoulders to buttocks. The whole sloughed looked not unlike a great sheet of lichened bark from an old tree. This man did well, was kept in bed but a few days, and then was able to walk to the clinic to be dressed, and went on to uninterrupted recovery.

The pathology of burns is the pathology of inflammation of the part locally affected, with almost all the morbid changes possible in the complications arising therefrom. A severe burn can open the way to the onset of many diseases, both medical and surgical, each fatal to life. From the grasp of the demoralizing fright of the moment of contact of the destroying element through the subsequent period of shock, followed by febrile action, internal congestion of brain, lungs or other organs, during the reactive period, burns may prove fatal at any time. Later, death may come from secondary hemorrhage, perforation of a duodenal ulcer, exhausting diarrheas or suppuration, disintegrating blood changes with absorption, causing pyemia, septicemia and embolism; also secondary parenchymatous inflammation of the kidney, with uremic poisoning and amyloid degeneration of the liver, spleen, kidney, and gastro-intestinal tract. Incidentally from without, erysipelas or tetanus developing may cause a fatal issue. Where life is not endangered, the local effects of ulceration, cellulitis, abscess, sloughing and gangrene, causing deforming contractions with loss of function, overgrowth of scars, sometimes involving nerves in the meshes of the fibrous tissue and slow healing ulcers, all handicap, thus giving this form of injury an importance which surgeons are prone to disregard.

The first action of heat is to stimulate sensory and paralyze vaso-motor nerve filaments, causing pain and hyperemia. This reaction may be instantaneously lost in severe burns as a result of loss of conduction where nerve trunks are involved, so that deep burns are less painful than superficial. This is well shown in the case reported of a foundryman who stepped one foot in a puddling-pot of molten metal with the result of complete solution of the member; he, however, suffered no pain. In a slight burn this stimulation causes an outpouring of fluid from the papillary loops of the capillaries in the corium. This bulges up the epiderm and forms vesications or blisters. Moist heat is more stimulating than dry, Neumann having found that moist heat from 167° F. will cause vesication, while 212° F. and over will destroy the skin in part or entirely. Much higher temperatures than these may be withstood if the heat and the portion of the body to which it is applied be dry, as illustrated in treatment by the application of dry hot air in certain cases to 400° F. or even 420° F.

The fluid contents of blebs or vesications is not serum, but serum plus fibrin ferment which in a few days if left alone causes an albuminous coagulation. The formation of this fibrin ferment is the cause of a rise in the body temperature and Horrocks speaks of a systemic poisoning action (non-bacterial), which develops at the same time.

Fluid and semi-fluid particles may both be absorbed from a burned area although, following the formation of granulations, little absorption takes place. The fibrin-ferment fever in simple inflammation is similar to the first rise in temperature after reaction in burns, not due to early sepsis. Horrocks says that there is first a period of quiescence before this reaction takes place.

Directly after a burn during the period of shock the temperature falls to 97° F. or as low as 95° F.; then rises at reaction to 104° F. or as high as 106° F. That absorption does take place he proves by reference to the action of the thermal cautery. He says we may for illustration divide the area of a scarified wound into three divisions, (1) the part most affected by heat; no water is present and the tissues are carbonized; (2) area of active inflammation; the vessels are plugged with clots and contracted, the lymphatic vessels retracting less than the venous and arterial capillaries on account of having less elastic tissue in them, absorption can readily take place; (3) area of active hyperemia, great diapedesis due to increased blood-supply, making it feel hotter and look redder than natural. Thus, in a simple scarification, we have an example of what occurs after a burn.

The mass of the eschar after a burn may be thrown off in either one of two ways, namely, (1) by a demarking inflammation with but little attending discharge which can be absolutely aseptic. Complete charring forms tar-like products of

distillation, which are naturally unadapted for infection of micro-organisms. The mass shrivels, mummifies and is cast off finally as a dry slough. (2) Infiltration of the slough due to activity of the micro-organisms which lying in the depths of the skin escape the heat's action; or due to those which wander in afterward.

The action on the skin causes it to become a yellowish, greasy pulp or to be thrown off in shreds and layers. A poison develops which belongs to the group neurin and muscarin, derived from cholin; their great virulency is shown by the action of muscarin, 5 milligrams injected causes symptoms of poisoning in a man. Putrefaction goes on, with water formation, the moisture extending into the tissues beneath, where these elaborated poisons are readily taken up and carried into the general system. A rich supply of oxygen favors their development; oxygen being necessary to produce virulent ptomains.

Deep burns are relatively less dangerous than those superficial burns which produce white eschars. Over a given area a scald or a flame scorch will cause less destruction than does fire, while molten metals burn deepest.

The early visceral changes after severe burns are well shown by Dr. Russel who reported the postmortem findings in the cases of five children who died a few hours after the accident. The liver and kidneys were swollen, spleen enlarged and softened with moderate hyperemia of all the organs. Most striking was the swollen appearance of the lymphatic glands and the gastro-intestinal lymph-follicles. Focal changes about their germinal centers had taken place wherever lymphocytes were found, from the small nodules in Glisson's capsule to the largest lymphatic glands. The germinal center was enlarged so that it could be seen by the unaided eye. The protoplasm of the cells was broken up, while certain endothelial cells in the neighborhood, acting as phagocytes, had taken up the fragments of protoplasm and nuclei. In the blood, fragmentation of the red blood-corpuscles, especially in that taken from the spleen, somewhat less so in the liver, had taken place. In the skin thrombi appeared and in the Malphigian corpuscles the same changes had occurred. Russel explains these various changes by assuming that toxins elaborated by destruction of the superficial layers of the skin pass into the circulation, and when the arteries of the lymphatics break up into capillaries the rapid flow of plasma causes the edematous swelling and tends to sweep the lymphocytes into the pericuticular lymph-sinuses.

Nearly identical changes to these have been found in the lymphatics of children dead of infectious diseases. Frankel and Spiegler implying the same principle in their statement that the fatal effect of burns is due to intoxication from absorption of pathological cleavage products of the body proteids; death being therefore due to an acute toxemia.

That grosser lesions may result from these causes is well shown in a case reported by Dr. Granges of a boy of eight years who was burned by a redhot coal falling from the fire and rolling over his arms, belly, genitals and legs. Death occurred on the fourth day from a fibrinous clot found in the longitudinal sinus.

Fenwick holds that early death and internal complications after burns are due (1) to alteration in shape and diminution of vital properties of the red blood-corpuscles. Schultze found at a temperature of 54° C. (119° F.) that red blood-cells became shriveled and partly disintegrated, thus losing their power of carrying oxygen when most needed; also an abnormal loss of body heat occurred, due to paralytic dilatation of the blood-vessels and the fact that blood being a good conductor of heat, destruction of the epidermis, a poor conductor, allowing the loss to take place. (2) This fragmentation causes thrombi and stasis in the lungs, kidneys, intestines, liver, brain and subcutaneous cellular tissue. Thrombi are most numerous in the terminal branches of the pulmonary artery and are found during life. This causes obstruction to the emptying of the right ventricle and therefore general arterial stasis with consequent arterial anemia.

These conditions cause hemorrhages. Sometimes cardiac thrombi occur alone, giving rise to precordial pain, irregularity of the pulse, with obstruction of the pulmonic circulation and dyspnea rapidly increasing until death, ulcerations, and parenchymatous changes in various organs. Thus may be explained dyspnea, cyanosis, coma, smallness of the pulse and the various lung affections, convulsions, anemia and fall of body temperature after severe burns. The fatal issue after small burns in children is due to (1) a more intense action of heat upon the corpuscles; (2) weaker resistance, owing to the thinner skins of the corpuscles; finally, the comparative weakness of the heart and circulatory apparatus generally. This is borne out in fact by the report of an examination of a child, two years old, scorched over the upper part of the body, who died comatose after twenty-four hours. At the postmortem there was found congestion of the lungs and the brain membranes; arachnoid fluid in the ventricles, with engorgement of the vena cava and the right heart.

Convulsions are often the symptomatic cause of death in children, owing to their greater nervous susceptibility. When the blood changes come on quickly, excess of function is excited; but when some time has elapsed, structural changes take place.

Erichsen in examining 119 fatal cases of burns found complications affecting the brain in 33 out of 37 examined, complications of the viscera in the chest cavity in 30 out of 40 cases examined and of the abdominal organs in 31 out of 42 cases.

Dr. Jenner has described the postmortem findings in 17 cases of burns, the victims of a tenement fire in London; they were of all ages and of both sexes. Cadaveric rigidity had rapidly taken place and was due to cooking of the mus-

cles with shrinkage after death. This caused extreme flexion, which took great strength to overcome, recurring when pressure was removed. Dr. Jenner thought that in some instances where extreme shortening had taken place, an antemortem convulsive contraction had occurred before fixation by heat coagulation. The claim agent of one of the eastern railroads detailing to me the account of an accident which occurred on his road several years ago in mid-winter, when twenty-two passengers were burned and scalded to death, stated that it was impossible to straighten their flexed and contorted bodies. The jaws were found to be firmly clenched, so tightly in some cases as to cause blood to exude from the tongue. Excepting in a few cases the blood was found fluid in the heart. The liver, spleen and kidneys, all much congested, with dark, venous blood. The bladder was found contracted. The mucus in the nose and throat was of a blackish color, due to smoke and inhaled carbon particles. The lung tissue was of a rosy tint. Burned areas which had occurred after the death of the victim had no red halo surrounding the charred area as did those which caused death. One man was found with bits of plaster in his mouth and throat, with mucus black from carbon: this in connection with the presence of charred burns, without inflammatory halo being found proved conclusively that the man had been smothered by smoke and noxious gases and not burned to death. A medico-legal point of great importance; could be thus settled with ease. In this connection a practical point may not be amiss; firemen are often enabled to go long distances, through smoke and combustion gas filled rooms and halls, by creeping close to the floor, as the heavier uncharged air occupies a space of a foot sometimes as much as two feet above the floor. Bloody fluid was found in the pleural cavity and in the pericardium, though not over half an ounce was found in any one case.

The function of internal organs is to take on the extra work of the destroyed skin after burns; Freund and Russ have shown that the urine of those badly burned contains pyridin which Fraenkel has obtained by decomposing albumose with sulphuric acid; hence it seems possible for heat to cause a similar action in the bodies of patients. These authors have studied the urine in four cases of fatal burns and always found three abnormal constituents. The first is a series of bases of the pyridin type. The second is cysteine or is closely allied to it. The third from its reactions seems to belong to Pavey's group of carbo-hydrate derivatives of proteids. The urine was free from albumin and nucleo-albumin.

The author's theory requires for substitution the artificial preparation of these substances from proteids and the study of their effects upon animals; an important clinical fact seems to be that their presence in the urine is of grave import.

The degree of body temperature seems to be a factor in the production of kidney congestion. This is shown by reports of clinical examination made daily and systematically over long periods of time, at the Pennsylvania Hospital. It was demonstrated that when the temperature in a given case was below 101.5° F. in burns of whatever extent or severity, no albumin was present in the urine. Where kidney congestion is a special complication, albuminuria and hematuria are due to the acute nephritis. Amyloid change in the kidney after long suppuration may alone be the cause of albuminuria. Glycosuria coming on acutely and lasting four weeks is reported in one case after a slight burn.

The course of a burn is of importance to the surgeon from its very inception. He has not only to deal with local wounding, but with a constitutional reaction on the part of the individual injured as well. Under the head of shock are these constitutional manifestations described; and to it must be ascribed the chief cause of early death after burns. According to Shrady shock is a jar to the equilibrium of the entire sympathetic system, of which mere pain is oftentimes an insignificant part. Mitchell, Morehouse and Keen add to this enfeeblement of the heart's action through the mediation of the medulla oblongata and the pneumogastric nerves.

In a group of ten cases of burns occurring at one time, reported by Ashhurst, six died of shock within the first twenty-four hours.

A. E. Durham and Bryant agree that shock kills one-half of all fatal cases of burns. While young people stand shock very well, as do females better than males, infants and nervous women are very susceptible to its influence. The causes of shock are dependent upon the nature and extent of the burned wound. Burns of the chest and belly cause greater shock, other things being equal, than do such injuries of other parts; again, burns cause greater shock than do scalds. In Bartholomew Hospital, during a period of ten years, burns were found more fatal than scalds in the proportion of 26 per cent. to 9 per cent.

Pain, fright and loss of body heat are factors in the production of this condition. Heath believes that shock is kept up so long as there is any pain present, and Sonnenburg states that the sudden irritation of the sensory nerves, so numerous over a burned area, may be followed by paralysis of the heart, which, superadded to overheating of the blood, explains the sudden early death after cases of superficial burn. Lustgarten holds to the theory of intoxication, following burns of cutaneous surfaces when early fatal. Sonnenburg, however, contends that in as much as Lustgarten's cases all had an eschar, death was due to overheating of the blood, with consecutive thrombus formation. The temperature in such cases will rise a few tenths of a degree; there is an interval of cerebral and spinal irritation, followed by symptoms of paralysis and coma, all simulating alkaloid poisoning.

The symptoms of shock do not always appear at once; the period of depression following these injuries is given by most surgeons to be about 48 hours. Fell states that the time for the

appearance of shock may vary from 1 to 48 hours, and during this time the patient may be moved without harm.

During the period of depression the temperature falls and the patient feels cold and shivers; pain is oftentimes continuous. Following this is the period of reaction, lasting at times ten to fourteen days, and characterized by an elevation of temperature and internal congestions. An insatiable thirst is often an accompaniment and when the stomach is unretentive, adds to the dangers of the condition.

Fenwick, speaking of this complication from his experience in London Hospital, says it is an axiom at that institution that if a burn case vomits soon after admission, it will die. Hebra, Sr., and Kaposi, with their great experience in these injuries, state that they never saw a recovery after vomiting had set in. It is during this period that duodenal ulceration occurs; a complication to be more fully dwelt upon later.

Following reaction, the patient passes into what surgeons generally are pleased to call the stage of exhaustion. During this time more or less suppuration is taking place, and there is danger of death from exhaustion alone. Extraneous causes, such as erysipelas or tetanus, may be superadded to the suppurative process or to visceral damage. Diarrhea very often appears as the immediate cause of death.

A complication to which Curling, before the middle of the last century, first directed attention is ulceration of the duodenum. He noted that it was common in children and that when it occurred it was dangerous, death being due to hemorrhage, or to perforation and peritonitis. The cause of this lesion according to Curling, was an attempt upon the part of the adenoid tissue in the duodenum to assume the function of the destroyed skin. Since his time, many cases have been reported by others and must study and endless discussion as to the cause of this lesion have resulted. That it is not so common as it is important when it does occur is shown by the following statistics from Guy's Hospital in which, of a series of 37 fatal burn cases, 12 dying between the third and sixth days, examined for this lesion, no intestinal inflammation was found.

Holmes in a report on 125 postmortem examinations after fatal burns found 16 patients with ulcerations of the duodenum. Of these 5 died on the fourth day, 5 during the second week and 6 at a later period. At Bartholomew's Hospital 138 deaths from burns, with postmortems, took place in ten years; of these but three cases of inflammation of the gastro-intestinal tract occurred. In London Hospital, Dr. McCarthy saw but 2 cases of duodenal ulcer in 8. Erichsen reports 2 deaths from duodenal ulceration, after examination of 68 cases of fatal burns; and in another series of 22 cases in which postmortem examination of the abdominal organs were made he found them healthy in 5, generally inflamed with some trace of peritonitis in 11, duodenal ulceration in 6 cases.

The cause of this ulceration according to some surgeons is unknown, others believe it is due to poisoning of the adenoid tissue, especially that of the duodenum, which comes from the blood, or is thrown off by the liver in the bile. This explains why the ulcer is found most often in the pouch of the duodenum, placed posteriorly, just below the opening of the common bile-duct. This theory was supported by Wm. Hunter who used the following experiment to show that poisons generated by absorption of matters from the site of a burn are the cause of duodenal ulcers. He injected subcutaneously in a dog from 3 to 5 milligrams of toluylendiamin and later examined the viscera for pathological changes. In animals thus treated an intense duodenitis was found, due to the excretion of the poison by the bile. Hemoglobinuria occurred after the injection of the drug, as it does after certain burns.

Another theory and one which I think is well borne out in fact, is that of thrombus formation. It has been well proven that fragmentation of the red blood-cells occurs after burns and that semi-solid particles are absorbed and carried into the circulation. It is an incident whether the thrombus be carried to the duodenum or to some of the other viscera; after the capillary embolism has taken place, antemortem digestion completes the process of ulcer formation.

In my readings upon this subject I have found many descriptions of duodenal ulcers, but no clear narration of cases where this lesion occurred alone. Grange reports his findings of a suspected case of duodenal ulcer; a man burned variously over the body to one-sixth of its extent died on the fourth day. At the postmortem examination no duodenal ulcerations were found, but disintegration of the stomach had occurred.

Tay reports the case of a woman, aged forty-eight years, burned over the chest, neck and face, by a paraffin lamp. The most prominent constitutional symptom was pyrexia; death occurred on the twenty-fifth day. Upon postmortem examination of the arch the aorta was found full of coagula; the valves and heart were normal. Two ulcers were found on the curve of the stomach, but no lesion of the duodenum was found. It would seem in this case that the continued high temperature gave rise, as borne out by the experiments of Schultze, to an increased tendency to fragmentation and clotting of the blood.

Another case is reported of sudden death after a burn from hemorrhage of the stomach. Upon postmortem examination no gastric ulceration, but congestion of the mucosa of that organ was found. In the duodenum, neither an ulcer nor congestion were found.

Carhart records a case of suspected ulcer, with recovery, after a burn which extended over a total area of six square feet. After four days the stools became clay-colored and of a cadaveric odor, with the symptoms of a duodenal ulcer developing. The patient laid on his back most of the time, and while healing was protracted, bedsores forming, the patient recovered.

Hill reports a typical case, following a scald of the legs, back and buttocks of an idiot girl, aged eighteen years; death occurred eighty-three hours after the accident, vomiting having come on after twenty-four hours. At the postmortem, a perforating ulceration the size of a shilling was found on the posterior surface of the bowel two inches from the pylorus. Its edges were pulpy, somewhat thickened and adherent by plastic lymph to the head of the pancreas. The surrounding peritoneum was inflamed. The stomach was found empty, slightly injected and inflamed. The lungs were somewhat congested. No hemorrhage occurred from the bowel.

A case of frostbite is reported to have finally ended in death from duodenal ulceration, as was proven by subsequent autopsy.

Symptoms of ulcer formation are usually meager. From descriptions of the suddenness of the onset of the condition, a study of the temperature is important. A sudden fall occurring especially between the fourth and twelfth day should excite grave suspicion; the time cannot be set down as unvariable, however, as a case is reported as occurring one hundred days after the accident. Ulceration, however, occurred in the large intestine. This subsequently healed.

Annandale reports a case of death from duodenal ulcer on the seventy-fifth day after the burn was received, the fourth day of tne ulcer. Holmes recites the history of a patient of his whose death occurred from a duodenal ulcer, three years after recovery from the burn had taken place.

A typical duodenal ulcer, following a burn, takes the form of an indolent, circular, non-indurated, punched out ulceration and when deep, lymph is thrown out upon the peritoneal surface, offering thereby a natural protection from perforation; or, after a perforation has occurred, plastic lymph may at times be thrown out in sufficient quantity to occlude the opening. When ulceration into one of the duodenal blood-vessels occurs, fatal hemorrhage is the rule, likewise, connection with the serous cavity of the peritoneum with a developing peritonitis will cause the death of the patient. From the fact that cicatricial ulcers have been found in patients who died of complications after burn injuries, the importance of a given case will rest on the amount of surgical injury produced.

Contraction after the healing of burned wounds is of common occurrence. The depth of the wound is not the chief factor of its production for many burns which extend only through the skin have been followed by the greatest contraction. Friction during healing is the principal factor. It is for this reason that burns over the flexures of the joints are especially liable to this complication. The greater the friction caused by muscular movement (applications or dressings, must be added as a source of granulation irritation) the more exuberent will be the granulations. The larger the granulations, the greater will be the amount of connective tissue and the more will be the contraction.

Treatment.—Deaver has stated that every medical book is a rehash of what has gone before, but this must ever be so where true advance is made. The foundation of medical science has been laid and what is to come needs no firmer base. A man writes surgery because he thinks he has learned how to do things and wants to tell others how well they can be done. I have no new theory to present in regard to the treatment of burns. Many and varied have been the methods of treatment suggested and advised for these injuries; from the cook's dredger to complicated germicide mixtures, the underlying principle has been the same, namely, to prevent mechanical irritation of the surface of a hypersensitive wound and allow granulation to go on unhampered.

Hippocrates secured the least friction, consequently obtained the best results, in his treatment of burns by using lard and aromatic oils; to-day, carron oil is the common remedy for burn wounds. Oily applications to burns have the disadvantage of becoming rancid and dissolving otherwise aseptic sloughs which are dry from charring, and allowing infection to take place through the sloughing mass. Dressings become saturated and dry with a crust which causes irritation of the wound surface.

Gross found that carbonate of lead mixed with oil, common white-lead paint, applied to burns added to the value of mere lubrication by providing a support for the granulations; thus carrying out the idea of scab formation in wound healing. The coagulation of the contents of vesicles and the serum poured out upon the surface of a burn wound is plainly Nature's attempt to form a base for granulation formation, but pus infection too often mars the plans. Guzzo helped scab formation by using glycerin. Bilroth employed a solution of 2-per-cent. silver nitrate, painting over the whole wound. He stated that, though very severe pain is sometimes caused by this method, an eschar is formed and healing takes place more rapidly than by other methods of treatment. Skey uses a 10-per-cent. solution of the same drug, with a similar object in view.

The danger of using the silver nitrate eschar as a protective and support for granulation lies in the fact that infection will take place beneath it and being confined increase the irritant action of the pus organisms.

Velpeau found that pressure by adhesive straps would promote healing, and by this means secured support for granulation formation. Druitt followed out the same principle when in burns which refused to heal he employed a sheet-lead plate cut to the size of the burn and held in place by adhesive plaster. He gave absolute rest o the part, prevented friction and the burns got well.

As a friction protective silver-foil has lately been employed in the treatment of burns at the Johns Hopkins Hospital.

Picric acid in various solutions has been advised as an early treatment for burns before granulation commences; it is said to deaden pain.

Heath forms a scabbing solution by mixing one part of collodion with two parts of olive oil; using it especially for burns about the face.

Pure carbolic acid in solution, lately advised by some surgeons to be painted over burns, counteracts its virtues by being often very painful and by causing additional eschar. Although the intention is to cause a sterile, superficial eschar to be formed over the surface of the wound, we cannot be positive that micro-organismal (pus) growth has not taken place beneath the slough. It is therefore not a wise procedure to so seal up a burn wound.

Copeland reports two cases which were treated in an orignal manner by him along the same lines. The first patient was a man whose face, ears and hands had been burned in a boiler explosion. He had been treated with cotton and cosmoline dressings daily with no benefit and was in great pain, with wounds freely discharging. By the use of mosquito-netting the face was protected, and from pasteboard the doctor constructed open-end boxes in which the hands were placed and so held by means of plaster that they did not come in contact with the pasteboard; the ends were covered with netting to keep off the flies. No other dressing was used. By the next day all discharge had ceased, pain had disappeared, and there was glazing of the open wounds. Recovery commenced at once and was uninterrupted, leaving little disfigurement. The second case was that of a little girl, aged two years, whose clothes catching fire, was burned on one of her thighs over an area of two by three inches. Household remedies caused the wound to do badly; at the end of two weeks, fever developing, Dr. Copeland was called. He formed an oval pasteboard cover retained in place by adhesive straps, which he left over the wound for three days. Upon removal he found a well-formed scab, no fever, and healing well advanced.

By a study of the principles which underlie these different methods of treatment, we can arrive at but one conclusion. Secure protection for the granulations forming over a burned area and we will obtain a perfectly healed wound. There will be no danger of distortion of the scar or loss of function from contraction. Dusting powders of all kinds are as foreign bodies to burns and prove their irritant properties by the amount of discharge they cause.

Constitutional treatment of a patient burned is of the greatest importance and would naturally come first in a study of these injuries; but as I wish to direct attention to the treatment of a burn considered as a wound, I place it last.

The commonest and most dangerous source of irritation to a burned wound is infection. Suppuration has been considered by most surgeons as inevitable and, until Morton and Morris began advocating antiseptic treatment of these wounds when first seen, nothing was done to prevent this condition. The latter surgeon writes strongly and says common wound principles are "shamefully neglected" by the profession in these cases. These gentlemen, however, do not advocate frequent changing of dressings of burns and I find this teaching general in the writings of the profession. Morton states the great principle in the treatment of burns to be to allow the dressings to remain on as long as possible. Morris believes that frequent dressings are not only uncalled for but injurious.

From time immemorial it has been taught that air is an irritant to a burn and the common practice of some surgeons is, when dressings become saturated with discharge, to apply more dressings, externally, without removal of those beneath. Air is not an irritant to a burn and a burn wound which has been buried under layers of pus-soaked gauze or cotton batting for days is the better for removal, without fear of what the presence of air may do or that pain will be caused.

The pain of a burn is due to the direct action of heat upon the terminal sensory nerve-endings; continuous subsequent painful manifestations are due to the irritation of sloughing tissues, applications of dressings. The question of pain occurring when burns are dressed depends on the care in which the dressings are removed, and what the nature of the dressing applied next to the wound surface has been. Gauze, patent lint or cotton, dry and stick fast to this form of wound, as to any other where there is any oozing, and will irritate the granulating surface so long as it is on, causing pain when removed at the first dressing or at any subsequent one. The only danger which could arise from removing dressings and uncovering large burned areas is that from loss of body heat following destruction of the epidermis before constitutional reaction has taken place. As a laparotomy wound becoming foul-smelling from discharges is not treated by piling on more dressings, no more should a burn. Seeking to defend his position, one surgeon, speaking of the discharge and odor which follow his treatment of burns with carron oil to which he adds iodoform, states that when a surgeon gets disgusted with the odor so that he is unable to endure it for the sake of his patient, who if seriously burned will not complain of the odor, he had better take up the occupation of horticulture as being more properly within his (nasal) sphere. This gentleman advises few changes of dressings to be made. Handled thus, burns will verily continue to be, as they are usually described, "filthy" affections to treat. It is painful to remove a drainage-tube from a through-and-through drainage of an abscess, yet a clogged tube is useless and becomes the determining factor of the temperature-curve tracings of that case. Aseptic surgery is the ideal toward which we strive; the surgeon who fails to keep clean (free from infection) until healed the wounds of the body which he makes knows he has fallen short and will strive in his future work to correct the faulty technic which allowed such invasion. Burns and scalds are wounds, as much so as an incision or a laceration, and demand as careful treatment. The earlier a burn can be dressed the better will be the result.

Of the household remedies it is sufficient to say that they should not be used. Friends would do best by the patient and assist the surgeon if they would confine their efforts to carefully cutting away whatever clothing was loose about the burn, wrapping about the wound a piece of oiled or wax paper, such as florists use, tied on with strips of muslin. A burn wound so handled is in the best condition for right treatment by the surgeon.

Removing the oiled paper protective; with scissors and forceps cut away all shreds of burned clothing remaining about the wound. Puncture blisters and drain fluid which either will be rapidly absorbed with a febrile reaction or coagulating, awaits but the entrance of pus organisms to become a culture medium. Infection being ever present in the skin, by trimming away all detached fragments a source of danger is avoided. With care cut away as much of the burned subcutaneous tissues as possible; a curette may be necessary and when gently used will cause but little pain. An anesthetic is advised by some surgeons to be used when large, deep burns are to be dressed, and if it does not increase shock it may be useful at times. All of the burned tissues will not be removed at one dressing; inflammation must assist in the removal. Disorganized, dead, burned tissues must be cast off from the living, but we now know that the aid of pyogenic organisms are not needed to further this process.

In selecting an application for a burn, two principles are involved; the agent must cause no irritation and must be antiseptic. The most commonly used antiseptic drug in wound treatment is bichloride of mercury, but in hydrogen di-oxide we have that which to my mind is almost the ideal wound cleanser. According to Houssell of Tübingen a 3 per cent. hydrogen di-oxide solution is equal in power to a 1 to 1,000 bichloride solution, acting on bacteria suspended in aqueous solutions; but hydrogen di-oxide is superior to it in media rich in albuminous fluid, but poor in cells. Where the latter predominate it is again on a par with the solution of sublimate.

Bichloride solution of 1 to 2,000 strength applied to burned areas is often too painful to be borne and in children has caused convulsions. Carbolic solutions, boric acid, sodium bicarbonate or the like, in the strengths advised to be used on burns are too weak to be of value and but add to the moisture of the part; if used stronger they become irritants and increase discharge.

Having cleared up the wound, it is next to be thoroughly washed by syringing with a solution of hydrogen dioxide, one part to six of distilled water. I have many times used a full-strength solution without causing pain, but routine treatment had better be commenced with weaker solutions. Much dead tissue will be dislodged and washed away in addition to that removed with instruments. When foaming has practically ceased commence the dressing of the wound by applying all over its surface and well over the edges to sound skin strips of rubber tissue in size about ½ to ¾ of an inch wide by three or four inches long; each strip to overlap the previous one laid down by a small margin. Rubber tissue is now made membranous in quality and it is this form which will lie best and cause least irritation.

A few layers of loose, sterile gauze is to be fluffed over the tissue and the whole held in place with a gauze bandage or by means of two or three narrow adhesive strips. To secure perfect rest we must place the part in the best position to obtain muscular relaxation, applying splints for retention and support. They should be well padded and held to the part by adhesive plaster, over which should be applied a muslin bandage to complete the dressing.

Dressings must be so disposed that no pressure upon the forming granulations will result or irritation will be caused. Barber uses rubber tissue in large sheets, wrapping it around the limb, as he says "the tighter and more snug the better will the air be excluded and the quicker will be the recovery"; over this he applies absorbent cotton held on with a roller bandage. Where destruction of muscles, tendons or their sheaths has taken place after burn injuries, the mechanical balance of the mechanism of the joint affected will be destroyed with a commensurate loss of function dependent on the extent of the injury. In such cases the best we can hope for is ankylosis in a good position for future usefulness.

Dr. J. Webb, speaking of the hopelessness of the local treatment of old burns about joint flexures, which are ever contracting and breaking down, advocates radical surgery. One of his cases was that of a man suffering for twenty-one years with a burn of the popliteal space which refused to heal and destroyed the function of the joint. The second case occurred in a woman and consisted of a burn over the elbow, extending but through the skin. This wound healed and broke down continually, as did the other. Amputation was performed in each case. The patients did well and were decidedly less crippled after the operations than before.

There are cases which will require amputation after burns, but they will become fewer when the fresh wounds are given the careful attention which they deserve. The case of my own, which was the cause of arousing my interest in the treatment of these injuries, was that of a man burned on the outer side of the arm, over the bend of the elbow and the front and inner side of the fore-arm half way down to the wrist. The burn extended into the cellular tissue beneath the skin. Treating this wound as I have described, the scar tissue which formed during healing partook so closely of the nature of the normal tissues that a perfectly restored arm was the result. A subsequent case was that of a man suffering from a scald of hot water over the front

of his left leg, ankle and instep; carron oil had been used for three days before I commenced treatment of the case. With hydrogen dioxide, in full strength I syringed the wound, thoroughly washing away the masses of organized exudate and shreds of dead tissue, and trimmed away all of the blebs and loosened skin covering the scald. Rubber tissue strips were applied with gauze and bandage, as described. Pain, which had been a prominent symptom, and the discharge stopped at once, and though I had great difficulty in preventing movement of the ankle joint, as the patient returned to work after the first dressing, healing commenced immediately and went on to rapid recovery with a resulting scar which was freely movable and non-contracting. The granulations in both these cases were minute and closely packed from the commencement of the treatment until they leveled off and became permanent tissue.

The number of times that a burn should be dressed will depend on the amount of discharge which comes from it after the wound has been cleansed. Where there is danger of parts burned touching each other, they must be dressed separately to prevent distorted growth, particularly in the case of burns about the fingers and toes. To secure good results in burns of the hands of young children great care will be necessary. Burns of the palmar surfaces will require careful splinting until perfectly healed to obtain the best results. In such cases a posterior splint with a pad placed and held with adhesive straps so as to produce extension, is best. Cases which have done badly had better be left until the child is five or six years of age before attempting plastic work. In burns about the lax tissues of the neck and over the flexor surfaces of large joints, immobilization by whatever means it can be best obtained is of special importance. A burn about the neck which destroys the skin requires absolute rest and, as in fracture of the clavicle, the result will depend on it.

As surely as we can mark the growth of large, angry granulations, so can we tell what the result will be in after-time when the patient returns with a terrible contraction. The application of caustics or powdered pepsin is but an attempt to balance friction and contraction and too often fails. Plastic surgery will step in and change the current of events, but ours is an era of preventive medicine; attention, therefore, during the early formative (healing) stage to the wound, along the lines of common surgical wound treatment, will be effective and such cases will become known from their rarity.

Burns of the face are described as generally doing well and cases are reported as healing without a cicatrix, even when deep ulcers were present, while similar injuries upon the extremities do not do so well, taking longer to heal without securing as good results. The idea of an extra blood-supply in and about the face causing wounds of these parts to heal quicker than those of other parts of the body is fallacious. Practically all tissues have capillaries and it is these vessels which are the important factors where healing is taking place.

I have found a wound of the back or the leg equally deep as one of the face or scalp to heal as quickly as the latter when I have secured rest and freedom from irritation. Again, I find in my work that when I am not clean in a wound treatment, those of the face or scalp suppurate as quickly as do other parts.

Every individual has powers of healing equally developed over his body. Rest of the part, in its broadest sense, is the factor in the production of quick healing of a wound. An individual in repose or in activity will not move the facial muscles as much as his hands or legs if suffering from a wound of the face, hence the diversity.

Burns of the mouth and throat will require active treatment, which should be begun as soon as possible. Carbolic-acid burns of these parts, treated at once with alcohol, pure or dilute, as the requirements of the case call for, will promptly save life or prevent future constrictions. In cases of carbolic-acid burns from swallowed acid, we must remember that the antidote alcohol is a poison in itself requiring immediate lavage. Death occurred where this was neglected in the case of a child who having swallowed carbolic acid was given three and a half ounces of alcohol.

Edema of the parts should be treated by hot baths and diaphoretics; if no relief is obtained, scarify the base of the tongue, and pharynx, puncture the epiglottis and the sides of the larynx with a curved bistoury, guarded by a finger and wrappings of adhesive plaster or cotton; afterward use hot gargles and apply poultices to the sides of the neck. As a last resort, based on the fact that edema does not extend below the vocal cords, Ashhurst recommended the operation of tracheotomy, himself having performed it for edema of these parts after mouth and throat burns of various kinds twenty-eight times with five recoveries.

Lime splashes in the eye should be treated by dropping water acidulated with vinegar into the conjunctival sac. Copious irrigation by means of a strong force of water is often the best remedy. Particles should be removed with the moistened end of a handkerchief or a wisp of cotton twisted on the end of a match stick.

The treatment of burns due to the action of electricity in the production of the X-ray calls for absolute rest of the part and drugs to overcome pain, as shown by the case reported by Orleman. The burn took the form of an ulcer which refused to heal for ten months in spite of many forms of treatment, and was finally determined to be a trophic neuritis. A case has been noted in an English medical journal, which

came to coroner's inquest alleging death from Roentgen-ray photography. A woman suffering from fracture of the thigh-bone in March, 1900, was exposed upon the sixth of April to X-ray examination for two hours and twenty days later to a like exposure lasting two hours and ten minutes. "The latter exposure was followed by inflammation, and, so far as can be gathered from the newspaper reports, by ulceration of the abdominal walls." The woman became mentally unbalanced and death followed.

The sun's rays may cause burns of the first degree of severity. If attended to at once before vesication has taken place I know of no better remedy than that of Dr. Wood, as follows:

℞ Vinegar or dilute acetic acid, fl. oz. j.
Glycerin .....fl. oz. j.
Bismuth subnitrate, q. s. ad to paste.
Sig. Apply to burned parts.

Where vesication has taken place the treatment is the same as for other burns.

F. Mulig reports two cases of systemic poisoning following the use of bismuth subnitrate as an application for burns. In one case the treatment had been carried on for nineteen days, in the other for twelve days, when the patients began to suffer from stomatitis, salivation, blue line on the gums, and dysphagia. In both cases a thorough curettement of the wounds was necessary and a months passed before the symptoms entirely ceased. I think we need have no fears, however, of poison symptoms arising from the use of bismuth in this prescription for sunburn.

Skin-grafting is an important adjunct to the treatment of burns when large areas of skin have been denuded. Bryant lays great stress upon this procedure. McBurney, in skin-grafting for this and other forms of injury at Roosevelt Hospital, after clearing away and rendering the wound aseptic, employs rubber tissue as a protective in the form of shingles, in order that the salt solution, with which the gauze is wet may penetrate to the grafts. The rubber tissues, after being washed, is used again at subsequent dressings. Common oiled muslin was tried and found to be dry, stiff, hard and irritating; cotton batting was condemned on account of sticking and being irritating to the parts.

The constitutional treatment of a patient burned should be begun by placing him in a well-warmed room, in a bed screened to prevent drafts. Pain is the first symptom to be combated by the use of opium. To an adult, ¼-grain doses of morphine sulphate should be given at intervals of thirty minutes, until the pain is controlled. We must remember that it is the pain which we are treating and while pain is present we will not reach the therapeutic limit of our drug. Often ½ of a grain will be needed as a first dose. I have neither seen nor heard of harmful results from an overdosage of this drug while pain was present. Should such a case arise we have but to employ the antidote for opium, which is cocaine in sufficient dose to overcome its action. To an infant give 2 to 4 drops of tincturæ opii or tincturæ opii camphorata, repeated at intervals of thirty minutes until quieted. Naismith advises the use of ice cold baths to the burned parts as a "preliminary" treatment until pain has passed away.

In Vienna a treatment is followed out which consists of immersion of the burned parts in water kept at the normal body temperature. Shock coming on the patient complains of cold. Blankets, hot bricks, bottles or bags are the external requisites to promote reaction. At once may be given hot drinks; such as brandy in one-ounce doses, strychnine gr. $^1/_{30}$, atropine gr. $^1/_{50}$. Baxter advises for shock, baths at a temperature of 95° F. continued for periods of two hours. Von Nussbaum advises baths at 100° F.; he says this treatment has decreased the mortality of burns in the hospitals of Germany.

Vomiting coming on during the course of a burn is at all times serious and, while it may occur at any time, it is particularly liable to appear with the reaction of the body from shock. The patient becomes very thirsty and great care must be used in the quantity of liquids given; thirst should be quenched with cracked ice. No liquids or medicines are to be given by the mouth. The strength of the patient must be kept up by rectal feeding.

Brieger reports a case successfully treated by atropine sulphate given hypodermically. His first patient suffered from an extensive burn of the first degree caused by clothing catching fire; he was placed on a Hebra water-bed during treatment; on the second day vomiting began. Five milligrams of atropine sulphate were given during the course of the next two days. Vomiting ceased after the first injection; all threatening symptoms passed away and the patient recovered. In two other cases this treatment kept vomiting in check for hours, but did not prevent fatal termination.

Atropine is an antidote for muscarin. Brieger's theory is that by learning the nature of the ptomains given off in burns poisonous atom groups may be introduced which will unite to form non-poisonous compounds.

The bowels and bladder will oftentimes require continuous attention. The surgeon must bear in mind the danger of setting up a diarrhea after burns by treating constipation with aperients; enemas should be the only means used. The internal treatment of ulcers, should they develop, includes treatment for relief of the kidneys, diuretics, stimulants, with a milk diet. If uremic symptoms arise, produce diaphoresis.

During the period of reaction when everything must be done to support the patient's strength at this time internal congestions must be watched for and treated actively. Now, too, is the danger from pyemia from the

patient being allowed to lie in a bath of pus of his own making and absorption taking place; frequent dressings of the burned parts is the preventive treatment.

Hopeless cases of burns may be put in the continuous Hebra water bath, or the burned parts wrapped, as suggested by Dawson, in sheets of rubber tissue, oiled paper or oiled rubber tissue.

Summary.

Burns are the commonest of injuries and of all wounds they are treated least in accordance with now universally taught and accepted surgical principles.

Burns may be divided into two degrees of severity; burns of the first degree involve the skin only, those of the second degree include all others.

The pathology of burns is the pathology of inflammation of the part locally affected with almost all the morbid changes possible in the complications which result.

Early death and internal complications after burns are due to direct action of heat, with fragmentation and vital change in the blood-corpuscles; later effects are due to infection taking place from the burned area.

The condition of the granulations during the healing of burns is the determining factor in the amount of contraction and subsequent deformity which takes place. The greater the friction caused by irritation from whatever source, the larger will be the granulations, the greater the amount of connective tissue and the greater will be the contraction.

The local treatment of burns from the earliest times has been along the lines of prevention of irritation, but the late advances made in wound treatment have not been followed out in these.

The burn wound should be cleansed of as much dead, burned tissues as possible; the thoroughness with which this clearing away of the eschar is done will determine in a great measure the amount of future discharge, and the presence or absence of infecting organisms.

Hydrogen di-oxide to wash away the débris and render aseptic the denuded parts is the best antiseptic at our command; rubber tissue in strips should be laid on the wound to prevent contact with the absorbent dressing.

The use of splints to secure relaxation and retention in obtaining rest for a burned part is of great importance and is as much indicated in this form of injury as in fractures of the contiguous bones.

The internal treatment of burns is stimulative until reaction from shock has taken place when it becomes supportive.

Opium fulfils the indications for pain, internal inflammations and diarrhea.

The bowels and kidneys must be continuously kept open, but enemas only should be employed.

Watchful attention must be paid for early signs of internal complications of the viscera.

805 Madison Avenue,

CARBOLIC ACID IN BURNS.[1]

BY OTTO L. MUENCH, M.D., PH.G.,
OF WASHINGTON, MO.

SOME years ago I chanced to read in one of the medical journals an article written by a regular physician, who claimed that he had used carbolic acid pure in the treatment of burns with the result that pain was almost instantly relieved and an early cure effected. This statement somewhat astonished me and I admit that I was very skeptical on the subject for the following reasons.

Carbolic acid is, as we all know, a powerful escharotic and corrosive poison and acts as a strong caustic upon animal and vegetable tissues, even a weak solution of it destroying small animals. Its action upon man is analogous and when taken internally it irritates the gastro-intestinal canal, produces a feeling of intoxication, and turns urine an almost inky color. These phenomena are naturally most intense when a poisonous dose of acid has been taken and there may be added graver symptoms, such as delirium, dilated pupils, coma and death. I cannot imagine a worse suicidal medium than carbolic acid and still we hear of all sorts of people resorting to it as a means of suicide. This poison, I think, is frequently grasped at, because the public read so many sensational newspaper articles that they become convinced carbolic acid is a certain death when taken internally and because it is easily purchased without creating suspicion.[2] When undiluted the acid becomes caustic, as I said before, and may produce mummification of tissue; cases are on record in which the application of pure acid to a finger has caused strangulation and gangrene.

The best antidotes are albuminous liquids which are coagulated by the acid.

Externally carbolic acid acts as an escharotic when applied in the pure state, combining with the tissues and destroying them. Strange to say, however, its action on a burned surface as an escharotic is neutralized by the albuminous effusion becoming coagulated and local anesthesia of the peripheral nerves takes place. This looks like "similia similibus curantur." Its action in a dilute form when applied externally in promoting the cicatrization of wounds not burns is readily understood without the necessity of invoking its antiseptic qualities, for like many allied substances it operates as a stimulant to the parts to which it is applied, contracting and hardening them, while it protects them from the action of

[1] Read before the State of Missouri Medical Association.

[2] I suppose that, when these subjects reach the point where self-destruction is sought, the physical torture which carbolic acid produces is not taken into consideration. Death in such cases is not the direct result of the corrosive action alone upon the mucous membranes, but of the corrosion and paralysis of the epiglottis and subsequent rapid strangulation, the direct cause of death, then, being strangulation.

the atmosphere and thereby limits those secretions which tend to delay the healing process, while it favors the natural granulation or healing process through which alone new tissue can be formed.

The general result in burns treated with carbolic acid is that there is complete exclusion of air and coagulation of the serous effusions, and the healing process takes place with much less suffering and in a shorter time than by any other method which I have tried. We, of course, understand that carbolic-acid poisoning by absorption may result in some surgical cases when employed in too dilute a form, although in my practice during the last sixteen years and my hospital experience before I have been a strong advocate of carbolic acid in all cases where antisepsis in surgery or gynecology was necessary, I have failed to see one single case of poisoning from its use. Ever since the introduction of carbolic acid into surgery it has been assumed that it owed its advantages exclusively to its antiseptic virtues, but as I said before the exclusion of air is a very essential part in all antiseptic dressings for this prevents the entrance of microbes.

We often see in surgery where a laparotomy is undertaken that the surgeon, if in doubt as to the cleanliness and possible lodging of germs in the interstices of the epidermis, will resort to bathing the hands in pure carbolic acid, but immediately after washing it off with alcohol, the alcohol neutralizing the action of the acid.

There are a great many physicians who set aside carbolic acid as old-fashioned and instead employ bichloride of mercury as an antiseptic in obstetrics. The bichloride tablets are carried in the buggy case and no doubt are very handy, but in my experience with obstetrical and gynecological cases carbolic acid has been especially effective where septic infection has taken place, fever usually about the third to fifth day, rapidly subsiding after a thorough flushing with a strong solution of carbolic acid; by which the source of infection has been effectually sealed and further damage was prevented. I commend it especially in obstetrical cases after a forceps delivery, if the parts have been more or less bruised.

It is not necessary to go into details of the affections in which carbolic acid is used and in which its antiseptic qualities in a dilute form are inferior to bichloride of mercury. I will therefore proceed to give my experience with its use in the treatment of burns.

As previously stated, several years ago I had read the article on carbolic acid in burns and determined at the next opportunity to test the efficacy of this remedy. It seemed to me like homeopathy and in fact is an instance of "similia similibus curantur," although the "homeops" cannot claim any priority of discovery. The opportunity to test it soon came. I had burned my fingers severely on a bicycle lamp which I was admiring (but my admiration ceased at once), and not being very far from my office, made a bee-line towards it. I applied the much-lauded carbolic acid pure and to my surprise the pain ceased almost within ten seconds; there remained no further inconvenience except a feeling of constriction around the burned surfaces. I anxiously awaited the results and they were as follows: No blisters, swelling nor inflammation; the corroded skin came off in a few days, leaving a new skin and causing absolutely no inconvenience or pain at any time after the application. I did not even bandage the fingers, the surface where the acid had been applied acting as a protective callus. This being a small surface, however, I was not yet satisfied.

The next case which I was called to was a girl, twelve years of age, who had collided in the doorway with her mother; the mother was carrying a pail of boiling water, the contents of which were thrown over the little girl's chest, neck and shoulders. This was a case in which an extensive area had been scalded and I was rather timid in applying the carbolic acid. I did so, however, and immediately applied a vaseline dressing over the chest, neck, shoulders and face where burned, as my experience in my own case did not yet convince me of the efficacy of carbolic acid in burns on a larger area. To my great satisfaction and that of the girl the pain ceased within a few minutes and the case went on to recovery, without a single sign of a scar or contraction of the muscles of the neck.

The next case is a most interesting one in as much as I was one of the unfortunate occupants of a gasoline launch in which an explosion of gasoline took place. Mr. A. A. T. of our city had purchased for himself and friends a beautiful gasoline launch and in order to initiate his friends into the mysteries of gasoline boating on the Gasconade River, invited a number of them, with myself, to participate in a hunting and fishing excursion. Suffice it to say that we were all "on deck" when the time arrived to leave and reached our destination in due time. The gasoline engine, however, had become balky and Mr. T. and myself, as "expert engineers," concluded the fault lay in the quality of gasoline and proceeded after landing, to empty out the old gasoline to replenish same with new and better. Pardon me for telling this little story and I do it only in order that any suspicion of carelessness on my part will be eliminated from your minds. We were letting the gasoline run into the large pan under the engine and from there pumping it with a hand pump into the river; while I was stooping in the stern of the boat, Mr. T., who had warned all present not to come near with a fire, inadvertently made a connection with the electric-spark apparatus which ignited the gasoline vapor in the air and the next instant the boat, or rather the gasoline tank, blew up. I conceived in an instant what had taken place and had presence of mind enough to throw myself overboard into the river and into fifteen feet of water, the bank where we landed being so precipitous that it was impossible to get ashore quickly.

Mr. T., however, tried the shore route first, could not succeed in getting out of the boat, and finally followed my example and jumped overboard. Now, the river was all on fire as it were, the gasoline having been thrown upon it without a breath of air stirring and had remained where thrown. When I made my first appearance on the surface after my eventful dive, I came into a veritable hell of fire, and thought of the proverb "absence of body is better than presence of mind"; I did not stay long, you may imagine, but immediately made another dive and swam to shore under water, where I was drawn out unscathed and up the bank by some of our friends on shore.

Mr. T. did not fare so well. He was horribly burned; his entire head, face, neck and hands being one burn, the prominences as nose, chin and ears having been burned most severely, also the hands from which the skin hung in shreds. We left in a skiff at once for the station, only a few miles away, during which time Mr. T. suffered intensely. When we arrived at a physician's office I called for "pure carbolic acid." To the old M.D.'s surprise and consternation I vigorously applied the same to Mr. T.'s face, neck and hands, although at the time I considered the treatment rather heroic. I will state here that I also gave him a hypodermic of a quarter of a grain of morphine for the purpose of counteracting nervous shock, with the result that the pain from which he had been suffering intensely before ceased in about five minutes. We hired three oarsmen to row us to Hermann, Missouri, about five miles distant, where with the assistance of Dr. Brockhausen, I applied vaseline over the entire head, face and hands. The patient recovered without a single scar, although there was some sloughing on the end of the nose and rim of the ears.

I have since used carbolic acid on small burns in my family and elsewhere with the same result, but the above case is the most extensive burn upon which I have applied it.

INERTNESS OF PETROLEUM COMPOUNDS WHEN GIVEN MEDICINALLY.[1]

BY ROBERT REYBURN, A.M., M.D.,
OF WASHINGTON, D. C.;
PROFESSOR OF PHYSIOLOGY AND HYGIENE, MEDICAL DEPARTMENT, HOWARD UNIVERSITY.

WHEN we consider the chemical history and properties of the derivatives of petroleum and the more solid portion usually called paraffin, we are struck with their indifference to the action of strong acids and alkalies that usually destroy or combine with organic bodies.

The name paraffin (*parum affinis,* without affinity) is derived in fact from the character. Paraffins are not easily acted on by the strongest chemicals. Boiling hydrochloric acid or contact with chlorine gas, ammonia, potash or soda has no effect upon paraffin. By continued boiling with strong nitric acid, the higher paraffins yield nitro-compounds and various acids.

In view of the above facts it becomes an interesting study to determine to what extent petrolatum, when taken internally, can be absorbed into the body and its value as a medicinal agent.

It is universally admitted that fats of all kinds, when taken into the human stomach, are absorbed by the process of emulsification. This takes place by the action upon them of the alkaline fluids of the small intestine and pancreas. Cod-liver oil, for instance, is preferably given two hours after meals, for the reason that at that time the process of stomach digestion by the acid gastric juice is then nearly completed. The oil then passes nearly unchanged from the stomach into the small intestine, where it is emulsified and is absorbed into the lacteal system.

The wonderfully restorative effects of cod-liver oil in cases of tuberculosis and, indeed, in almost all conditions of the system which are attended with defective or impaired nutrition, has given it an importance and value far above any other medicine in the treatment of these cases. The disagreeable taste and odor of cod-liver oil are, however, great obstacles to its use, and some persons (though fortunately these are few in number) cannot take it at all. Other oils of less disagreeable flavor have been recommended as substitutes for cod-liver oil and among these the derivatives of petroleum have been largely prescribed and used.

The first question to be decided is, Are the compounds of petroleum, when taken internally, absorbed and made part of the tissues of the body in the same manner as, we know from the long experience of numerous observers, is the case when our patients take cod-liver oil?

An interesting series of observations on this point is given in a monograph on "The Behavior of Petrolatum in the Digestive Tract," issued by Drs. N. A. Randolph and Samuel G. Dixon in 1885, setting forth the result of their investigations in the Physiological Laboratory of the University of Pennsylvania. The following is an extract:

"The mixture of hydrocarbons, recognized by the pharmacist under the name of petrolatum, and popularly used under the commercial names of cosmoline or vaseline, presents on superficial inspection few points of difference from some of the organic fats of the same consistency. Close examination reveals differences, both in physical properties and in chemical constitution, between the bodies just compared. One point of difference, which I have as yet been unable to find recorded, lies in the respective behavior of these two groups when in contact with the absorbent surfaces of the digestive tract. Thus, while the organic fats as ordinarily taken in food are readily and almost completely absorbed, this soft paraffin is entirely rejected and found unchanged in the feces. During the eight days I took daily one-half ounce of commercial vaseline in addition to my regular diet. Digestion was in nowise altered, and no appreciable results ensued. Later, two healthy adults each received in the course of forty-eight hours one ounce of vase-

[1] Read before the American Therapeutic Society.

line. Their alvine dejections for three days from the beginning of this observation were collected and dried, and, at the suggestion of Dr. John Marshall of the University of Pennsylvania, extracted with petroleum ether. Making a slight allowance for incompleteness in extraction, the vaseline ingested was in each case recovered in its totality, showing that it had passed through the economy unchanged and unabsorbed."

Pure petrolatum, while entirely unirritating to the digestive tract, is valueless as a foodstuff.

Dr. Hutchinson in a paper published in the *Philadelphia Medical Journal,* April 15, 1899, p. 813, relates a similar experience with petroleum emulsion or rather petrolatum. In one case he gave 7 grams and recovered from the feces 7.1 grams, and in another case he gave 21 grams and recovered from the feces 21.6 grams. The increase of the amount of fatty matter found over the amount administered is probably to be accounted for by the solvents used having dissolved some of the fat which had been taken as food, and which had remained unassimilated in the intestinal canal. Dr. Hutchinson's final conclusion is that the compounds of petroleum or rather petrolatum are not absorbed.

My own experience also with petrolatum when given internally is that it passes unchanged through the intestinal canal. Whatever beneficial effects it may exert in the stomach and intestine are due to its lubricating and demulcent properties. A further incidental proof of the non-absorbability of paraffin and its compounds is shown by our recent experience in its attempted use in surgery. After certain surgical operations which involve great destruction of tissue, great gaps are left in certain parts of the body after the wound has healed. This is especially the case after the extensive mutilations which are necessary for the removal of cancers and other malignant tumors. It has been suggested that the appearance of these parts could be greatly improved by injecting paraffin in a melted state under the skin in order to prevent the adhesion of the skin flaps to the subjacent tissues and thus diminish the deformity. This has been done successfully in a number of cases, but, unfortunately, it was found that dangerous and even fatal results were produced by the paraffin wandering from the point where it was injected and closing up the lymph channels of the part. A reference to this danger will be found in the Medical News, April 20, 1901, p. 624.

Finally, therefore, if we consider (1) the entire insolubility of petrolatum and its compounds in either the gastric juice or the fluid of the intestinal canal, and (2) the fact that when petrolatum is given internally the whole of it can be recovered from the feces, we are warranted in stating that petrolatum can in no sense be considered a substitute for cod-liver oil as a nutrient and restorative, and (3) that the usefulness of petrolatum as a remedy must depend upon its unirritating and demulcent properties.

STRANGULATED HERNIA OF THE BLADDER; RUPTURED SARCOMA OF THE TESTIS MISTAKEN FOR STRANGULATED HERNIA.

BY THOMAS H. MANLEY, M.D., PH.D.,

OF NEW YORK

Extrusion of the bladder walls as a lesion coincident with reducible hernia is not very uncommon; it is very much more frequent than is generally supposed. Three cases of it have come under my own observation.

On this topic a recent writer[1] says the relative infrequency of hernia of the bladder may be appreciated by reference to Moynihan's table[2] which includes 187 cases. This analysis is based upon Bruner's report, which was published in 1889 and includes 38 cases. Other observers have made similar observations, Siegel collecting 73 cases in 1891 and Fenger adding 14 in his report of 1895, making a total in his collection of 87 cases.

It is a matter of general observation that the comparative number of hernias involving the bladder as a complication has increased since the publication of Bassini's method. The reason for this may be ascribed not only to the fact that operations are done more frequently now than formerly, but because the neck of the sac is exposed more clearly by the technic which has been uniformly followed since 1890.

Further insight into the frequency of this condition may be had by an analysis of the 2,500 operative cases[3] in the hands of eight experienced operators, which reveals 23, or nearly one per cent., in which the bladder was recognized as a part of the hernia, and yet, in approximately 700 operations Dr. Coley has not encountered a single case wherein the bladder was associated with the hernia. Dr. W. O. Roberts of Louisville, Ky.,[4] recently added another case which was successfully operated upon, the diagnosis having been made before the bladder was opened.

It has been said that any organ of the abdomen except the liver may find lodgment in a hernial sac, and in the fetal type of congenital exomphocele we may even find this organ enclosed.

From the histories of recorded cases, it does not appear that there are any special characteristic symptoms of vesical hernia, or that its presence as a complication is a source of special discomfort.

While vesical ectopia has long since been noted as an occasional accompaniment of groin and crural herniæ, I have been unable to find any cases recorded in which the condition has been present as a dominant factor in the strangulated variety; certainly none in which a distended, trapped vesical diverticulum has given rise to all the symptoms of strangulation and presented all the physical characters, as in the following case:

Mrs. G., eighty-two years of age; a housewife;

[1] "Hernia of the Bladder," by Charles C. Allison, M.D., Omaha, Neb. West. Med Review, March 15, 1901.
[2] Lancet March 2, 1900.
[3] Lancet, March, 1900.
[4] American Practitioner and News, Dec., 1900.

mother of fourteen children; a hardy, vigorous individual; throughout life has enjoyed fairly good health. During the past four years she has noticed a swelling in her right groin, low down; it was sometimes large, then smaller, and again, it would altogether disappear. She believed it was larger when she was constipated and it troubled her more in winter than in summer.

Throughout February, 1901, it became sensitive, permanent and larger, and at times, painful. On February 25th, she was seized with severe colicky pains all over the abdomen, particularly over the site of the tumor. Her physician came, tried taxis on the tumor and gave her some soothing remedies. She remained about the same on February 26th. At noon on February 27th her symptoms became more urgent and vomiting began. She showed signs of great weakness. Her abdomen had become tense and tympanitic. Taxis on the tumor had been repeatedly tried with no reduction.

On the evening of this date the case was first seen by me. Her general condition then was not as grave as might be expected, from strangulation of three days' standing in one so advanced in years. Her pulse was feeble, but regular, and the extremities were warm, and, though well under the narcosis of morphine, she was fully conscious. She frequently vomited a yellowish fluid without fecal odor. After an enema in the morning she had a free movement. The tongue was moist with red border. Thirst was not very urgent. The abdomen was somewhat tympanitic and sensitive. The lower limbs were drawn up. She had spells of great pain beginning over the site of the tumor. On the inner side of the right thigh, over Scarpa's triangle, a movable mass, about the size of an English walnut, could be defined. This was so sensitive that any pressure on it gave pain. On percussion it emitted a flat note. On inquiry about the urine it was said that she passed it unaided herself.

It was my opinion that the case was one of sub-acute strangulation and that the only effective mode of relief would be through an operation. This was opposed by the family until further efforts at reduction were made. She was then given chloroform and moderate taxis again tried. From the consistence of the tumor it impressed me as being an epiplocele, though I knew well from experience how deceptive the palpable characters of strangulated hernia are. Taxis failed. Three hours later preparations for a laparokelotomy were made. Everything also was in readiness to deal with a gangrenous intestine if it came in view.

Chloroform was again employed and I was ably assisted by Dr. L. Zwisohn, the patient's physician. With three assistants the operation was done in the patient's own apartments, the usual aseptic precautions being observed. The first incision was made from above downward over a distance of six inches, the center passing over the convexity of the tumor. Successively the various layers were divided at the neck of the sac until Gimbernat's ligament was reached and the crural ring exposed. Then the inner border of the ring was freely opened and with it an adherent branch of the obturator artery was cut in two. The ends of this were picked up and ligated.

It was my purpose to expose the peritoneal pouch, but as I dissected through the investments it appeared that the peritoneum had undergone changes and become adherent to all the adjacent parts. Moreover, the distention of the sac had now entirely disappeared. This puzzled me and for the first time it dawned on me that this might be a case of hernia of the bladder; in spite of the fact that before operation she had been catheterized and six ounces of urine removed.

After a careful manipulation of the parts it seemed to me that we were dealing with only a thickened sac, and that its contents had been returned to the abdomen on the division of Gimbernat's ligament. It was then completely divided with the end of the scissors. Immediately a straw-colored, limpid fluid escaped, much the color of the peritoneal secretion, but being in doubt I introduced into the sac my index finger and it came into immediate contact with a catheter passed through the urethra.

The breach in the bladder was closed by two rows of fine silk suture, the closed wound being firmly secured at the inner margin of the incision in order to provide for possible leakage from the vesical wall. On the outer margin of the bladder a small omental mass was found; this was firmly adherent to all the adjacent parts. It was devoid of a peritoneal investment. It was ligated and cut away. The upper end of the incision was closed, but the lower kept freely open by packing.

The after-history of this case was very satisfactory. The vesical wound healed by primary union with no leakage whatever, but for two weeks after the operation she was troubled with cystitis.

Such is the history of this unusual type of hernia. Without an ocular demonstration we would certainly be disposed to doubt the possibility of a vesical extrusion provoking all the symptoms of strangulation. Here we had a vesical diverticulum slipping out through the crural ring, becoming distended and in time provoking inflammation at the point of constriction, the pent-up, decomposing urine producing excessive irritation with reflex pain over the entire abdomen. This was, anatomically, an example of extraperitoneal vesical hernia of the bladder walls, the parts being projected from below the peritoneal reflection, through the space of Retzius.

Operative Technic.—In the recent past the largest factor in swelling the mortality list after operation has been faulty, defective operative technic. Gibbons sets down 15 per cent. as the proportion of deaths from this cause alone. It is my conviction that fifty per cent. would be nearer the figure.

Briefly the fundamental features in technic may be enumerated under the following heads: (1)

A large incision involving a laparotomy; (2) free division of the constriction from *without* in; (3) the deliberate, methodical and complete treatment of any important complication then and there.

The lives of a large number of those with strangulated hernia are sacrificed by the violence involved in being transferred to hospital; hence, in any other than very exceptional cases, they should be treated *sur le champ*. Let no one allow himself to be intimidated by the phantom of infection, for no hospital ever constructed will provide results equal to a clean, comfortable, orderly household.

The second case is that of a Russian peddler, aged forty-one years, brought to the hospital at midnight, May 21, 1901, in the ambulance, having been seized with symptoms of strangulation early in the evening. A physician who had been called in perseveringly tried taxis, but without success and sent the patient to the hospital. I saw the man an hour after his admission. He was vomiting freely, was very anemic, very weak, and constantly groaning with pain. The abdomen was distended and highly sensitive everywhere. On the right side, extending from the inner inguinal ring to the scrotum, was a large tumor. The scrotum was greatly distended and showed signs of severe bruising by the taxis which had been employed. The mass presented many of the common characteristics of a hernial protrusion; it was continuous with the inguinal canal and seemed to contain a fluctuating substance, solid on percussion. The patient stated that he had had a rupture for five years and had worn a truss the greater part of that time, although it never kept the hernia well up. His bowels had not moved for three days. His features were pinched and showed the signs of severe pain. His pulse was 136; temperature, 97° F. The history and clinical picture of the case pointed to strangulation and operation was indicated.

The patient was anesthetized and an incision, beginning two inches above the internal ring and carried down nearly to the base of the scrotum, was made. On division of the tendon of the external oblique it was at once clear that the spermatic cord was the seat of a new growth which greatly distended the infundibular fascia and extended down to and well into the testicle. The tunica vaginalis was widely ruptured on its anterior aspect and through it projected a large, fungoid, bleeding mass. The tumor of the testis and cord was enucleated, the vas deferens and vascular stems of the cord being divided and ligated at the inner ring. There was no trace of any description of hernia. The rupture of the tunica vaginalis probably was caused by forcible taxis.

The two foregoing cases are thought worthy of record as illustrative of the difficulties which not infrequently beset surgical diagnosis in the treatment of various phases of hernia and allied conditions.

MEDICAL PROGRESS.

Bacterial Products and Peripheral Nerves.—The relation of bacterial poisons and the peripheral nerves has always been of interest. DRS. DOPLER and LAFFORQUE (*Arch. de Méd. Experimentale*, July, 1901) have investigated this subject by the experimental inoculation of a large number of such substances. They employed diphtheria toxin, tuberculin, bacillus pyocyaneus, streptococcus, staphylococcus, pneumococcus, pneumobacillus and cholera and pest toxins. Soluble products of the colon bacillus gave practically no results. These various substances were inoculated locally around the peripheral nerves of guinea-pigs. Account was taken of the clinical symptoms produced and a microscopical examination of the nerves was made. They believe that inflammations of the peripheral nerves of infectious origin are due to the action of bacterial substances circulating in the peripheral blood-vessels. These penetrate by dialysis into the interior of the nerve fiber at its most vulnerable point, the nodes of Ranvier. They exert a necrosive chemical action on the elements of the interannular segment sometimes the axis-cylinder being relatively more affected than the other parts. The entire picture resembles a peri-axillar segmentary necrosis. If the axis-cylinder submits to grave alterations rupture and fatal degeneration follow, accompanied by the characteristic symptomatic conditions.

Chemical Reaction and Power of Bactericidal Serum.—As the mode of action of bactericide serum has been compared to that of a proteolytic enzyme, the question is raised whether the chemical reaction of the surrounding medium can influence the bactericidal power. A. HEGELER (*Arch. für Hygiene*, Vol. 40, Heft. 4) has pursued investigations along these lines. His work was confined to the use of antityphoid sera on rabbits. He added acid or alkali to such sera and showed that active rabbit antityphoid serum was not changed in its bactericidal power by the addition of a very small amount of alkali (sodium carbonate). The smallest addition of such alkali, however, to inactive serum caused it to hinder the growth of typhoid bacilli. Small additions of acid, just sufficient to produce a very slight acid reaction to active rabbit serum, did not alter its bactericidal power, but when the reaction was made decidedly acid the alexins of the serum entirely lost such power. Careful observations have shown that the reduction in the number of bacilli in the sera was genuine and not due to an agglutination process.

Growing Vegetables Contaminated by Pathogenic Microbes.—This subject has been exhaustively investigated along experimental lines by R. WURTZ *and* H. BOURGES (*Arch. de Méd. Experimentale*, July, 1901). The first series of experiments was carried on in the laboratory. They took pots of earth in which were planted various vegetables and thoroughly saturated the earth with water containing cultures of anthrax,

typhoid and tubercle bacilli respectively. After variable periods of time search was made upon the leaves for the presence of these organisms. Ordinary "plate" methods were not available, as there was too much contamination by the ordinary earth organisms. In working with the anthrax bacillus they heated these leaves for three minutes to 80° C. and then made gelatin plates from them. With the typhoid bacillus the leaves were placed in carbol-broth and incubated at 42° C. for two hours; platings in gelatin were then made and the organisms recovered, after which they were identified by the agglutination test. With the tubercle bacillus an emulsion of the leaves in sterile broth was inoculated intraperitoneally into guinea-pigs. By these methods they recovered the anthrax and typhoid bacilli in every case for three weeks following the inauguration of the experiments. In one series they recovered the tubericle bacillus once out of four times and in another series eighteen out of thirty times. In another set of experiments they contaminated vegetables under domestic cultivation with non-pathogenic organisms. These were frequently watered, some being protected from the sun, while others were not. Those which were protected always showed the presence on their leaves of the organisms sought, while in those which were not protected these organisms were never recovered. They contaminated potatoes with virulent anthrax bacilli and planted them in boxes of earth. Upon sprouting these were exposed to the sun for three hours daily. The anthrax bacillus was recovered from the leaves of the developed plants 41, 93, and 101 days after planting, but these organisms had lost their virulency. They conclude that, although the bactericidal action of the sun's rays plays an important part in destroying micro-organisms, infection is possible from eating uncooked vegetables and all possible precautions should be taken against contamination of the soil in which they are cultivated.

Immunity in Relapsing Fever.—The study of the mode of action of the specific serum on the spirillum of relapsing fever both *in vitrio* and in the animal organism, the investigation of the mode of disappearance of these spirilla in the bodies of refractory animals, and the relation between the bactericidal substances and leucocytosis in those sick with this disease have of late occupied the attention of different observers. The most recent work along these lines comes from SAWTSCHENKO and MELKICH (*Annales de L'Institut Pasteur,* July 25, 1901). Their investigations were made during the epidemic of Kansan in the winter of 1900. Their observations included the study of the relation of the spirillum to the phenomena of Pfeiffer and agglutination, together with experimental research with respect to the action of the spirillum in normal and immunized animals. Furthermore, they investigated the condition of leucocytosis in individuals with this disease. They find in the blood of relapsing-fever patients two substances which have a special affinity for the spirilla, namely, (1) agglutinine and (2) immunizing substances (fixatives). These latter result from the intracellular metabolism of the spirilla and when they combine with the alexins of the serum occasion the destruction of the spirilli *in vitrio.* These appearances are analagous to the phenomena of Pfeiffer. The extracellular destruction of the spirilla takes place in certain regions of the body, such as the peritoneal cavity, of an immunized animal where the alexins and fixatives combine but it does not occur in the plasma as the alexines are not here present in a free state. In fifty cases where the blood examination was made before the crisis they never found the detritus of spirilla or those altered after the phenomena of Pfeiffer. If there is not free alexin present in the regions of the body mentioned the spirilla disappear by phagocytosis. The fixatives serve intermediately between the spirilla and the leucocytes transforming a negative into a positive chemiotaxis. The phagocytotic crisis is determined by the accumulation in the organism of the fixatives, be they in the leucocytes or in the bodies of the spirilla, and contribute undoubtedly to the formation of agglutinines.

Notes from the Children's Ward.—The following is the substance of a clinical lecture by A. JACOBI (*Medicine,* Aug., 1901). Case I.: Tuberculous peritonitis. A cure may result spontaneously and is facilitated by rest in bed and the use of guaiacol and iodide of potash. Cod-liver oil and good food should be given, ascites removed, and if these measures fail, a laparotomy should be performed. Case II.: A boy with headache, frowning, delirium, rigidity of the neck, and enlarged pupils that do not contract. One symptom of cerebrospinal meningitis, Trousseau's, is absent. This is the anemia followed by hyperemia on drawing the finger over the skin. In this case acute rheumatism must be thought of, and salicylates administered, for many such cases are taken to be meningitis. Case III.: Endomyocarditis in which strychnine failed to produce improvement, but when it was stopped and opium given in its place, the child improved. Codeine sometimes acts well in such cases. In a chronic heart trouble have the patient take digitalis and go to bed and rest a month or two, and at the end of this time renew the digitalis.

Syphilis of the Liver.—Following a discussion of the literature on syphilitic disease of the liver, MAX EINHORN (*Med. Rec.,* Aug. 17, 1901) classifies the tertiary lesions into gummata and cirrhosis, and either of these accompanied by acute or chronic icterus. Most cases have pains in the right hypochondrium, either constant or in attacks which may resemble gall-stone colic. There may be lack of appetite, frequent eructations, bad taste in the mouth, and constipation, or more rarely diarrhea. General malaise, restless sleep, moroseness, weakness and loss of weight are often present, but the emaciation is never so great as that of cancer. Acute icterus may be catarrhal, or due to temporary compres-

sion of the duct by a gumma. In chronic icterus, the duct is narrowed by gummatous tumors or scar tissue, or is involved by the connective tissue proliferation. The liver is usually swollen and uneven, round and hard nodules may sometimes be felt on its surface. In the more advanced stages amyloid degeneration appears. Enlargement of the spleen is frequent, but not constant; ascites may develop. The diagnosis cannot be made with certainty, for syphilitic cirrhosis resembles ordinary hypertrophic cirrhosis, but with a history of lues, and nodules in an enlarged liver, the diagnosis is probable and may be confirmed by antisyphilitic treatment. Iodide of potassium sometimes benefits an ordinary hypertrophic cirrhosis, though to a less extent. If nodules have lasted a year or two without marked loss of weight, it is probably syphilis and not cancer. Neusser believes that an increase of eosinophiles in the blood points to syphilis. An alcoholic gastritis accompanying a uniformly enlarged liver, argues for alcoholic cirrhosis. The prognosis is favorable if treatment is instituted before ascites, albuminuria, etc., have set in. The best results come from the combined use of inunctions of mercury and iodides internally; but anemia requires iron or arsenic, ascites requires puncture, and icterus may be reduced by glycerin, gm. 4.0 (3i) t.i.d., half an hour before meals. Alcohol must be forbidden, and proper diet and hygiene insisted upon.

Blastomycetes in the Tonsils.—The relation of the blastomycetes to abnormal tonsillar conditions has recently been investigated by E. Bertarelli and N. Calamida (*Ctlblt. f. Bäk.*, July 18, 1901) who examined the tonsils of patients in otological clinics. They studied fifty tonsils of which twelve were normal and the remaining hypertrophied. In their work they employed greatly diversified culture media, as agar, potato-agar, gelatin of different reactions, and glucose and ordinary bouillon. The media yielding the best results were those of Casagrandi and some prepared from the juice of different fruits and agar. Some of these cultures were kept at incubator and others at room temperatures. They also studied tonsillar sections. From all their cases they were only able in four to isolate these organisms, none of which were pathogenic for guinea-pigs, save one in which the result was doubtful. In histological and pathological sections they were constantly found. They think that such finds do not explain the pathological conditions of hypertrophied tonsils and that it is very probable that they are only degenerative forms of these organisms whose presence is accidental and is of no significance.

Pregnancy Following Myomectomy.—Fourteen cases have been reported, with eighteen pregnancies, and nine healthy children born at term, writes J. N. West (*Med. Rec.*, Aug. 17, 1901). There were two stillbirths at term and six abortions, most at the third or fourth month. All these uteri had extensive scars from the enucleation of tumors, but all had normal presentation, normal positions, and in only two were forceps necessary. In two cases gestation was complicated by a flow of blood or amniotic fluid from utero-abdominal fistulæ, which remained at the site of operation, but healthy children were born.

Agglutination of Bacteria.—The contention of Emmerich and Loew, that bacterial agglutination, particularly as applied to the bacillus pyocyaneus, and the sedimentation seen in old bouillon cultures are identical phenomena and dependent upon enzyme formation, has been strongly disputed. The most recent contribution to this subject is made by P. T. Muller (*Ctlblt. f. Bäk.*, July 18, 1901). He employed ten-day-old bouillon cultures of this organism obtained from two different sources. These contained an abundant deposit of organisms and also a large quantity of enzyme. The microscopical examination of this sediment in dilutions of from 1 to 1 to 1 to 1,000 showed no trace of agglutination. By heating these cultures to 55°-60° C., and thus removing the enzymes, he was enabled to produce agglutination of the organisms when brought in contact with a specific serum. He, therefore, opposes the view of Emmerich and Loew and thinks that agglutination is produced by substances formed in the animal body exclusively.

Malaria in Honduras.—The propagation of malaria by the mosquito is now an accepted theory, but here, 4,000 feet above sea-level, and far above the mosquito belt, J. H. Egbert (*Med. Rec.*, Aug. 17, 1901) finds malaria of common occurrence. There is abundance of good water, excellent natural drainage and a salubrious climate. The author has been led to conclude, without microscopical investigation, however, that fleas are the agents which carry the infection. During the run of the fever, his treatment consists of quinine and acetanilid, with calomel or saline laxatives; for the subsequent disturbances he gives quinine and mineral acids, or Fowler's solution, with podophyllin or other hepatic stimulant.

New Technic for Seeking Bacillus Typhosus in Water.—Notwithstanding the great importance of water as a contaminating agent in typhoid infection the successful isolation of typhoid bacilli from drinking water is of comparatively rare occurrence. Gabriel Vallett (*Arch. de Méd. Experimentale*, July, 1901) points out that the chief obstacles are, first, the inability to examine a sufficient quantity of the water, and, second, the very frequent presence of the colon bacillus in such waters as contain the typhoid organism. The colon bacillus, by reason of its great vigor, survives the manipulations resorted to in most water tests, while the typhoid organism is destroyed. Particularly is this the case in the method of Péré in which passages through carbol-broth are employed as a part of the process. He recommends the use of the following new method: To 20 c.c. of the water are added four drops of a saturated, sterilized

solution of hyposulphite of soda and an equal quantity of a like solution of nitrate of lead. This forms a precipitate and clouds the liquid. Upon being centrifuged the supernatant fluid is poured off. Investigation has shown that this is practically sterile. The precipitate is then dissolved by a drop-by-drop addition of the soda solution. He then divides this in a series of tubes containing Elsner's potato-gelatin and "plates" in the ordinary way. Colon colonies develop in thirty-six hours, but typhoid often require three or four days. The organisms are then identified by the usual methods. This method has two advantages: (1) The examination of a considerable quantity of water; (2) the avoidance of any antiseptic action on the typhoid bacillus.

THERAPEUTIC HINTS.

Urticaria.—

℞ Menthol ..... gm. 0.10 (gr. iss)
Alcohol
Ether
Chloroform ..... aa 30.0 (℥i)

—Gaucher in *Bull. Gén. de Thérapeutique,* July 30, 1901.

Soothing-Draught.—

℞ Potass. bromid. .... gm. 2.0 (gr. xxx)
Spt. melissæ ..... 10.0 (℥iiss)
Syr. etheris ..... 30.0 (℥i)
Tinct. valerian..... gm. 3.0 (gtt. xl)
Aq. ad.... ..... 120.0 (℥iv)

—Brissemoret in *Bull. Gén. de Thérapeutique,* July 30, 1901.

Anemia.—A teaspoonful of the following mixture is administered four times a day:

℞ Euquinine ....gm. 4.0 (℥i)
Ferri lactat. ..... 8.0 (℥ij)
Liq. acidi arsenosi .... 6.0 (℥iss)
Tr. lavand. comp. ..... 15.0 (℥ss)
Elix. aurantii, ad. .....120.0 (℥iv)

If considered desirable, strychnine sulphate may be added.—Blackwood.

Pambotano.—This is a leguminous plant of Mexico, Senegal and Gabon, employed in malaria, typhoid, influenza, and other fevers as a succedoneum for quinine or cinchona. It is used in decoction, cc. 500.0 (Oj) of which may be taken in small doses during the day.—Callandria in *Bull. Gén. de Thérapeutique,* July 30, 1901.

Bronchitis with Asthma.—In children a few doses of the following are usually sufficient to relieve the dyspnea until another attack of bronchitis supervenes.

℞ Potass. iodid ..... gm. 4.0 (℥i)
Liq. ammon. anisat. ... 2.0 (℥ss)
Syrupi ..... 2.0 (℥ss)
Aquæ q. s. ad. ..... 90.0 (℥iij)

M. Dose, one teaspoonful every four hours.—A. Caillé in *Pediatrics,* Aug. 15, 1901.

Pericarditis with Effusion.—When accompanied by rheumatic polyarthritis, the etiology is evident, and we give the nearest to a specific, *viz.:*

℞ Sodii salicyl. ... gm. 0.3 (gr. v)
Potass. iodid. ..... 0.12 (gr. ij)

Sig: Four times a day in water.

At the same time order rest in bed, a daily warm bath and fluid diet, and as soon as removal is safe, give the patient sunshiny country air.—August Caillé in *Pediatrics,* Aug. 15, 1901.

Spinal Anesthesia.—The indications are advanced age, cachexia, pulmonary or renal disease, fear of general anesthesia on the part of the patient, simple operations on the lower limbs not suitable for local anesthesia, and in cases where one is without an assistant to administer an anesthetic. The contra-indications are operations above the umbilical level on account of the inconstancy of the analgesia in this region, operations on the abdominal cavity on account of possible vomiting, and the frequent necessity of the Trendelenburg or other position unpleasant to the patient, operations requiring absolute muscular relaxation, youth and nervous fear of operation.—Vannerts in *Le Nord Médical,* Aug. 1, 1901.

Puerperal Infection.—Besides the usual symptoms of fever, rapid pulse, abdominal pain either spontaneous or provoked by palpation, changes in the lochia, etc., P. Budin (*L'Obstétrique,* July 15, 1901) recommends a digital examination of the interior of the uterus. In the normal uterus a few days after labor the internal os is firm and is penetrated with a certain effort. If, however, the uterine mucosa is diseased, it seems as if the muscular fibers were paralyzed, for one's finger is easily inserted into the cavity. One may also find there debris of clots, membranes or placenta, which give the finger a fetid odor. If the uterus contains only clots more or less odorous, and the uterine mucosa is smooth except at the placenta site, intra-uterine antiseptic injections will suffice. If the finger detects placenta or membranes, or if at the placental site pressure suffices to detach friable pieces, one should perform digital curettage followed by sponging. This curettage must be thorough, the bladder and rectum being emptied, and the abdominal wall relaxed under anesthesia. One or more fingers are inserted into the uterus, the outside hand holding the fundus, and the walls are scraped clean. Then an intra-uterine injection of bichloride, 1=4000, is given, and one or two sponges plunged in creosote-glycerin, 1-5, are inserted. Following this a vaginal douche prevents the caustic effect of the creosote on the vagina. If there is a noticeable bloody discharge, one or two tapes of iodoform gauze are introduced into the uterus for drainage. If the infection has lasted some time before this cleansing, the cure will be slow, and if the system is seriously invaded, active supporting treatment will also be necessary.

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SATURDAY, AUGUST 24, 1901.

HOSPITAL MANAGEMENT.

Among the Chicago items in the Medical News for August 17th and in this issue are two to the effect that the internes at the Cook County Hospital have been absolutely forbidden to perform any major operation or high-forceps delivery even in the presence of the attending surgeon. The rule covers all operations in which an anesthetic is employed. Figure to yourself, as the French say, Wier, McBurney, or Hartley summoned to the hospital because a pelvic examination of a nervous patient requires anesthesia, or because of her refusal to allow the opening of an abscess, or a painful dressing, without it! The statement that the internes are up in arms is hardly necessary as such is the inevitable result of so sweeping an order.

It is to be hoped that the natural outcome of such short-sighted policy may be avoided by some modification of the rule. No hospital can reasonably expect to secure as internes the best class of men if they are to be treated as absolutely irresponsible beings. Such a course may work temporary good to the patients, but in the end must yield results inferior to those which would be obtained by more moderate restrictions. That the interne is human, and often so anxious to secure an operation that he may occasionally leave some stone conveniently unturned in order to fail to secure the presence of the attending surgeon and thus accomplish his purpose, is not unnatural. And it has happened more than once that the patient has not profited by this circumstance. It is not necessary to leave this city to secure examples, nor is it difficult to find opportunities to study the cause and treatment of such a trouble.

Severity and sweeping restrictions inevitably result in insubordination and lack of interest of a house staff, frequently to dishonesty by evasive methods, and to eventual deterioration of the quality of men who are willing to fill the positions. The interne, presumably a man appointed after a fair competitive examination as the candidate best fitted for the position, is the servant of the hospital in return for the experience which it affords. In this position he is entitled to whatever knowledge he can secure without injury to its inmates, and absolute prohibition to perform major operations even in the presence of the attending surgeon robs him of his just dues. Furthermore, it turns out a prospective surgeon who will be obliged to secure his training by operating, without the advice and guidance of a more experienced man, upon what private patients may be unfortunate enough to fall into his hands. That the framers of unwisely restricted orders may learn their mistake by suffering by them is too much to hope.

No one can exert so strong a protective influence over the patients as the attending surgeon. There are few ex-internes in this city who have not learned that the higher the grade of work done by him the better will be that of his assistants, and that the man who is willing to respond to a call from them at any hour of day or night will be met more than half way. Furthermore it is not the attending surgeon who is generous to his assistants who loses the opportunity to perform an operation in which he is especially interested, through professed inability to locate him at the time. Not an interne but knows why a certain division is always chosen first when the operator upon another may be of equal skill. Nor is the surgeon who neglects his service and telephones to operate without him the most successful in securing the coöperation of his staff. On the other hand, one who considers that his assistants will learn more by watching him may be right in the early part of their course, if his

estimate of his own ability is correct, but a subsequent operation performed merely under his guidance is of infinitely more value than the privilege of being again an onlooker. The surgeon who will sacrifice himself by giving such personal instruction will lose nothing either in the quality and willingness of the service of his assistants or in their lifelong regard for himself and his professional ability. The hospital which rules its internes in this way is to be congratulated upon its sagacity and good fortune. And this is as true in New York as in Chicago.

BLOOD ALKALINITY AND MEDICATION.

One of the most striking things about the chemism of the human body, so far as we know it, is the uniformity of its processes despite the many and ever-varying factors that enter into it. The physics of the body involve practically the same mysteries, but we have become more familiar with them and they fail to appeal to us so strikingly. The maintenance of the human temperature at a cyclic constant between 97.8° and 99.2° F. is a most intricate problem in heat conservation and heat dissipation. With the surrounding air at a temperature of -70° C., far below that at which alcohol solidifies, members of Polar exploration parties find their average daily temperature not below 98° F. Visitors to the tropics, under an equatorial heat at midday of over 120° F., do not find their temperatures in health above 99° F. The modifications of chemism necessary to maintain this constant temperature in the midst of external variations are extremely complicated, yet in spite of them the nutritional processes of the body remain undisturbed and are accomplished in just the same way as in the comparatively uniform temperature of the temperate zones.

With this consideration in mind it is not so paradoxical to find that the blood, despite alterations in metabolism, remains almost absolutely constant in certain of its qualities. Several years ago the English physiologist, Sir Michael Foster, pointed out that the alkalinity of the blood is one of its most uniform characteristics. The degree of blood alkalescence, for instance, cannot be changed by the administration of alkalies. Alkali substances which find their way into the circulation and which, if retained, would increase its alkalinity are promptly excreted by the kidneys. It has for many many years been a favorite therapeutic idea that the blood could be rendered more alkaline and thus certain diathetic conclusions dependent on the presence of frèe acid in the blood relieved. While the theory of an acid diathesis as the basis of rheumatism has not in recent years met with the favor it gained in a preceding generation, most physicians have been ready to concede that some form of acidemia was the groundwork of gout. Sir William Roberts refuses to admit even this, however, and deprecates utterly the value of alkaline treatment in gouty affections.

Dr. Henrich Stern at the last meeting of the New York County Medical Society still further added to the complications of the problem of increasing or diminishing blood alkalinity by reporting the result of a series of personal observations on the relation between blood alkalinity and urinary acidity. It has usually been assumed that an increase of the alkalinity of the blood decreased the acidity of the urine and *vice versa*. In Dr. Stern's experiments, however, variations in the alkalimetric curve of the blood by no means corresponded to analogous changes in the urine. It is possible to have increasing urinary acidity while blood alkalinity remains stationary or is even diminishing. Dr. Stern showed also that the alkalinity of the blood was not a function of dietary variations and that alterations in the comparative intake of proteid and carbohydrate foods had practically no effect.

The degree of blood alkalinity in any given subject is dependent to a large extent on the individual. Different individuals even when perfectly normal have distinctly different degrees of blood alkalinity, just as they have varying types of metabolism. In a word, instead of a simple problem, whose equation can be varied by affecting certain factors, the alkalinity of the blood is one of the most complex products in the human economy. It is probably very fortunate that we have not been able to effect it as easily by drugs as has been thought possible. Micro-organismal growth may be encouraged by even slight variations in the reactions of such media as the blood. It is as distinct a step in advance, however, to realize that we can affect the uniformity of blood alkalinity very little as it was for the generation before ours to realize the futility of specific medication. It is not the employment of specific drugs, but the care of the individual patient in the many details of his affection, that constitutes successful therapeutics. It is not the production of gross changes in the important circulating media, blood and lymph, that we can hope to employ for curative purposes. The problem of successful treatment for disease

or diathesis is never as simple as that crude notion would seem to imply. Therapeutics is, and must be of its very nature, essentially individual in character until we know something more definite about human chemism and the intricate factors that enter into it in health and disease.

SUBSTITUTION: A MEDICAL EVIL.

FROM the eagerness of the proprietors of patent medicines to call the attention of the public to their "blue label" or "white seal," or "signature without which none is genuine," we are led to believe that there must be a large number of people in this world who believe that imitation is the sincerest form of flattery, and who devote their whole lives to preparing something "just as good" for the consumer. It is a little startling to have our vague ideas corroborated, and to know that there are large manufacturing concerns that put up nothing but imitation medicines, drugs, flavoring extracts, everything from the synthetic oil that passes for orange phosphate in cheap soda-water fountains to the inactive scopolia root that is substituted for belladonna.

The manufacturers of proprietary articles are perfectly justified in their strenuous efforts to warn the public against such impostures, for it is not merely a question of another man pocketing the dollars that ought to recompense them for their advertising and labor, it is a question of reputation. Even a patent medicine has a standard of efficacy that must be maintained. But while its imitator runs the risk of law-suits, the second-rate druggist busies himself with inferior drugs, and cheap chemicals and no one seems to know the difference.

We physicians hardly realize that substitutions and adulterations are as diligently worked off on us and our patients as in the patent medicine field; that non-official leaves are ground up with official leaves, that tinctures are made from fluid extracts instead of from fresh drugs, and that old weather-beaten drugs are sold in the market for use in the preparation of potent remedies.

The high class pharmacists of the large cities are so wholly above reproach that we would depend on their testimony rather than on our own in deciding about the purity of the drugs used; but who of us whose prescriptions every day are filled up-town and down-town, in the suburbs and in neighboring cities, have any guarantee that they are filled in such a way that they will have the strength and potency that we in all good faith prescribe?

The United States Pharmacopœia is the official code which determines the strength of all preparations and on it the profession base their prescriptions, but it is a startling fact that although the last twenty years have been the most brilliant in research work in the physiological reaction of drugs, yet far too many pharmacists are using the Pharmacopœia of 1880, if they use any at all, the edition of 1890 not having as yet gotten past the minority.

We may not take the matter of substitutions quite as seriously as do our friends who dispense drugs under their signatures, but we certainly ought to treat it more seriously than we do; for our reputations as well as our patients will undoubtedly suffer. That we permit the state of affairs to exist at all is due to the very widespread carelessness mingled with the trustful ignorance with which we put our prescriptions in our patient's hands, not knowing where or how they will be filled.

ECHOES AND NEWS.

NEW YORK.

Brooklyn Eye and Ear Hospital.—The recent annual report of this institution shows that it is in a flourishing condition. During the past year there were treated 14,883 cases. Of these 9,199 were diseases of the eye; of the ear, 3,110; of the throat, nose and skin, 2,327; of the nervous system, 247. The total year's income was $16,000. The erection of a new hospital building is under contemplation.

Registration of Tenement Houses.—All property owners in Brooklyn have recently been notified that they must report their houses as tenements if they contain three or more families. A failure to do this will be punishable by a fifty-dollar fine. In order that no injustice may be done no fines will be imposed until after September 6, 1901.

PHILADELPHIA.

Invalid's Long Fast.—A rather remarkable case of fasting is reported from Emlenton. Mrs. Jane Lynn, who had been an invalid for years, died August 12th after taking absolutely nothing except an occasional glass of water for fifty-five days. During sixty-one days she had only one ounce of food.

Pest-House Torn Down.—The smallpox pest-house erected on the Bowen estate near Schuylkill Haven has been torn down by the heirs who say that permission to build had not been granted. The County Poor Directors settled the matter by giving a site for the proposed hospital.

Donation to York Hospital.—A citizen who wishes his name withheld has donated

$40,000 to the York Hospital, the money to be paid after his death.

Sentence of Malpractitioner Reduced.—Joseph Heppenstall alias "Dr. Heppe" or "Dr. Hill" was recently sentenced to four years in the penitentiary for causing the death of an infant by criminal malpractice, the infant dying six hours after its birth in the Philadelphia Hospital. Later the sentence was reduced to two years.

The Regulation of Hospitals.—The institution known as the "Prince of Peace Hospital" has lately been the subject of investigation by a Coroner's jury, the death of an infant being the subject of inquiry. Testimony revealed the fact that the institution has been in operation for two years without a license, although some patients in the lying-in department had been obtained by advertisement. At the last meeting of the Legislature an institution in the city asked for $40,000; inquiry revealed the fact that it had not even a resident physician. The condition of affairs is well expressed by the *Ledger,* which, in commenting upon the first case, says: "The incident fairly suggests the comment that has often been made heretofore, that numerous institutions of a charitable or semi-charitable character are organized, often by well-meaning persons, when there is no pressing public necessity for the institution, and which cannot be adequately supported without State aid. They belong to the class which the State Board of Charities designates as those which are controlled by individuals sometimes assisted by grants from the State.' There is reason to believe that many so-called charitable institutions have been founded not to meet a pressing and obvious need of the locality, but eventually to secure State aid for what may be called hospital promoters."

Physician Made Prominent by Strike.—Dr. Robert J. Black, Mayor of McKeesport, is probably the most talked-about physician in the United States at present, his proclamation regarding the participants in the steel strike being the subject of comment. Mayor Black has a rather unique and enviable history. For twenty-five years he has been practising medicine in McKeesport, but has accumulated no wealth because he is the "poor man's" doctor. He visits the worst sections of the city and no man is too poor to get him out of bed any hour of the night. Black fights the United States Steel Corporation and hence was bitterly antagonized by it and the politicians when he was running for mayor. The poor people of the town remembered his kindness and they elected him by a majority of one vote against all opposition.

CHICAGO.

To Analyze River Water.—To checkmate the secret investigations of St. Louis experts into the character of the water in the Chicago River, the Sanitary District Trustees have made plans for a new series of observations and analyses of river water. Four St. Louis chemists have worked two weeks on samples of water from the mouths of the sewers and are now moving down stream. The Trustees will follow them at every point and duplicate their former observations in order to prove, if necessary, that the water does not vary in quality with the seasons. Judge Springer of Washington, Attorney-General Hamlin, Special Counsel John J. Drennan, and Dr. Frank W. Reilly of the Health Department have met with the Trustees. St. Louis has spent $35,000 thus far for evidence and has $40,000 available still. The Drainage Board has only spent $18,000 on this line.

Epidemic in Evanston. It is said that Evanston has an epidemic of scarlet fever and diphtheria. Within the last few days fifteen new cases have been reported to the Health Department. Most of the cases are from the southern wards of the city. Health Commissioner Parkes is at a loss to account for the outbreak, but believes the epidemic was caused by children bathing in the lake near the mouths of the sewers, and he will take steps to prohibit all bathing in certain places.

Typhoid Fever and Malaria Prevalent.—It is said that these diseases are epidemic in the nineteenth ward. So general have these diseases become that the Nineteenth Ward Improvement Association has issued a warning bulletin on insanitary conditions. Visiting nurses from Hull House are taking care of more than 30 patients at the present time. Dirty streets, filthy alleys, impure water and milk and unwholesome foodstuffs, vegetables and fruits, combined with crowded tenement conditions, are said to be among the causes which started the epidemic. Of these evils, the filthy alleys are the most injurious to the health of the public. A committee will be appointed to see that the garbage law is enforced. Steps will be taken to have a more rigid inspection of vegetables and milk sold in the district.

Appointment of Dr. Root.—Dr. Eliza H. Root has been appointed Dean of the Northwestern University Women's Medical School.

The Limitation of Internes.—In a previous issue of the MEDICAL NEWS we referred to the fact that on account of complaints of improper operating by internes at the Cook County Hospital, a rule was put into effect August 1st, that hereafter all major surgical operations must be performed by one of the attending staff. In answer the internes, through a committee, composed of Drs. J. Friedman, J. F. Howard, A. Foerter, O. R. Goldsmith, J. F. Hultgen, have issued the following statements: "(1) *Whereas,* it has been stated that we are but students, learning our trade at the expense of county patients, we emphatically deny this. Every one of us has graduated from a reputable school, has passed the State Board examination and is entitled thereby to practise medicine and surgery in this State, and is selected under Civil-Service rules, by passing successfully an examination in medicine and surgery given every year, competitive

in character, and held under the most rigid and impartial rules that govern any examination whatsoever. Such qualifications are not picked up by the wayside, but gotten only by constant application, by the expenditure of a great deal of time and money. Moreover, every interne in this Hospital has had a college training before starting in the study of medicine. (2) *Whereas,* it has been alleged too much and unnecessary operating has been done by internes. We point out the fact that no operation, at any time, has been performed until after a complete examination by a member of the attending staff, under his direct control and supervision. There is no authentic case in the hospital in which a patient was anesthetized without the presence of an attending physician or surgeon. (3) *Whereas,* considering the qualifications necessary to become an interne, and the fact that every senior interne has served twelve months in preparing for surgical work, it is justly evident that we should be regarded competent to participate adequately in the care of patients. Such privileges are enjoyed by internes of every other hospital in this country and abroad. (4) *Whereas,* . . . It appears as if there were friction between the hospital management and the internes. We assure you that there is nothing but good will between Warden Healy and the house surgeons."

Resignation of Dr. Corwin.—Dr. A. M. Corwin has resigned from the faculty of Rush Medical College as instructor in the department of diseases of the chest, throat and nose.

GENERAL.

Offer of Mr. Slimmer.—Abram Slimmer of Waverly, Iowa, has offered $5,000 to the Chicago Lying-in Hospital, if an additional $10,000 can be raised.

Mosquito Test Fatal Again.—It is reported that two of those who consented to be bitten by inoculated yellow fever mosquitoes in Havana have died.

Diplomas at Only $10 Each.—Three weeks ago Chief-of-Police Benjamin Murphy of Jersey City was informed that the Central University of Medicine, located at 68 Montgomery street, and managed by J. W. Norton-Smith, was doing an illegitimate business, the nature of which was not stated. He made an investigation, but Mr. Norton-Smith denied that he had carried on any business in Jersey City. He said he conducted business by mail only, and would answer no questions except by mail. As Chief Murphy could find no one who had been swindled, he concluded that he had no authority to make an arrest. He informed Prosecutor Erwin and United States Commissioner Linsley Rowe, who approved his course.

Obituary.—Dr. James A. Williams, for more than thirty-five years a practising physician of New York, died on Thursday at Armonk, Westchester County. He had been in failing health for more than a year, but hemorrhage of the brain brought the end suddenly. Dr. Williams was born in Sinking Springs, Ohio, sixty-one years ago. He was graduated from the Rush Medical College, Chicago, Ill., in 1861, and from Bellevue two years later. He entered the army as a surgeon, and was advanced to the rank of major-surgeon, being the youngest in the army to hold that title. Dr. Williams left a widow and daughter. To the latter, Miss Nellie Williams, was presented a gold medal by the United States Volunteer Life Association in April, 1900, for saving the life of her friend, Miss Harris, while bathing at Long Branch. Funeral services were held in Greeneville, Greene County, N. Y.

Dr. James Howard, Jr., of Masontown, Pa., a graduate of Jefferson Medical College, Philadelphia, was dragged to death by a runaway horse at Fairmount, W. Va., August 19th, where he was spending the summer with his brother, E. W. Howard. He was returning from Barnsville, a nearby town, where he had made a professional call, and his horse became frightened. Dr. Howard attempted to jump from the carriage but his right foot caught in the wheel and his head struck the ground. In this position he was dragged 100 feet. When the horse stopped, he was dead. He was twenty-three years old and a son of Dr. James M. Howard. His remains were sent to Masontown.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Own Correspondent.)

London, August 10, 1901.

THE TUBERCULOSIS CONGRESS—PROPOSED INSTITUTE FOR THE STUDY OF TUBERCULOSIS—OPPOSITION TO THE CRUSADE AGAINST CONSUMPTION THE SECRETARY-GENERAL OF THE CONGRESS AND HIS DIFFICULTIES—MR. BURDETT-COUTTS AGAIN ON THE WAR-PATH—THE TRUE INWARDNESS OF HIS CAMPAIGN AGAINST THE ARMY MEDICAL DEPARTMENT.

The Tuberculosis Congress is already well nigh forgotten, with the exception of Koch's sensational pronouncement which has sunk deep into the public mind. Sanitary authorities are making it an excuse for persistence in a policy of masterly inactivity in regard to the supervision of the meat and milk supply, and antivivisectionists are using it as a new argument against scientific research. I mentioned a rumor that Koch had been put up by the German Government to curse all legislation against purveyors of tuberculous foodstuffs; but though he may have been the spokesman of a clique, it is clear that he did not speak for the Government, for an order has been issued by the Public Health Department that there is to be no relaxation in the stringent laws now in force. It is probable that our Government will order a fresh investigation of the whole subject. We have already had two Royal Commissions on Tuberculosis, and the question of the

infectivity of diseased meat and milk was thought to have been definitively settled by the experiments of Sidney Martin. These are in direct contradiction to those of Koch, and as the preparation on which both these investigators based their conclusions were exhibited in the Museum, which was the most interesting part of the Congress, those present had an opportunity of studying the evidence on one side and the other.

It is not unlikely, by the way, that a permanent Institute for the Study of Tuberculosis may be an outcome of the Congress. The scheme has already, I am told, very influential supporters and the time seems to be ripe for its accomplishment. Of course, there will be opposition from some of the high priests of the Temple of Medicine who have persuaded themselves that tuberculosis is a *mare clausum* in whose waters they alone have the right to fish. From such men the organizers of the Congress had to encounter much opposition, all the more difficult to meet that it was mostly of an underhand character. The fact is that the crusade against tuberculosis is viewed with suspicion and dislike by a small, but powerful party in the College of Physicians, most of whom are connected with the Brompton Consumption or similar institutions. Their objection to the crusade is professedly based on its public character, which they affect to think degrading to the medical profession. The real objection is that the initiative did not come from them. Of this, however, they cannot justly complain, for they have had every opportunity of doing something for the repression of a national scourge, and it is their own fault that they did not avail themselves of it. Like the House of Lords in one of Gilbert and Sullivan's operas, they "did nothing in particular, and did it very well." Now that, owing to the impulse given by the *Practitioner,* a popular movement for the stamping out of tuberculosis has been set on foot, and is daily gaining ground, the high and mighty persons who ought to have taken the lead naturally find the time out of joint and are virtuously indignant that they have lost the chance of putting it right.

Great credit is, I think, due to Mr. Malcolm Morris to whose energy and tact the success of the Congress is very largely due. He had many difficulties to overcome, and the Congress had to be steered among sunken rocks and shoals—scientific, financial, and social—where a failure of nerve or a faulty movement meant wreck. The jealousy of some of the men from big provincial towns, where people's manners have not the repose that marks the race of Vere de Vere, showed itself in downright rudeness. It was curious to hear men of science actually denouncing the officials of the Congress for having allowed Koch to deliver his address. Truly if the hierophants of science were to have things all their own way, the *régime* of the Holy Inquisition would be mild compared with theirs. In respect of intolerance theologians cannot hold a candle to scientific men. Malcolm Morris is therefore to be congratulated on having escaped from his persecutors; he intends, I believe, to seek rest in America where he is to deliver the Lane Lectures at San Francisco.

Now that the Congresses have ceased to trouble and organizing secretaries are at rest, we enter on the dull season. All the leading physicians and surgeons are out of town, and Harley Street and Wimpole Street are, in a medical sense, deserted. Deputies do indeed sit at the receipt of custom in place of the oracles who have left their shrines, but business is not brisk. There would be nothing at all to trouble the serenity of the sky, but for an unfortunate accident which has given Mr. Burdett-Coutts an opportunity of going on the war-path again. At the annual meeting of the British Medical Association, held recently at Cheltenham, Sir William MacCormac in speaking of the surgery of war referred to amateur critics who had no idea of perspective and exaggerated everything. The veiled reference was transparent enough, and a newspaper dotted the i's by putting in Mr. Burdett-Coutts's name. That gentleman at once replied in a column and a half of the *Times* in which he repeats his charges against the conduct of the Army Medical Service in South Africa, and indulges in characteristic self-glorification. He tells the world that he struck hard at a deadly sham, and it tumbled to the ground! The effect of his eloquence he says was "miraculous," for "within a week . . . a transformation scene . . . was effected in the military hospitals in South Africa." If we are to take this as a true account of the matter, the word "miraculous" is not at all too strong; for if hospitals in which, according to Mr. Burdett-Coutts's own showing, everything was wrong were put to rights in a few days, a transformation so instantaneous as he describes could have been effected only by a miracle. But miracles, as Matthew Arnold so persistently repeated, do not happen; we are therefore driven to believe that Mr. Burdett-Coutts does, at least occasionally, exaggerate.

I refer to this matter here chiefly in order to correct any wrong impression American readers might get from the utterances of an indefatigable notoriety-hunter. Here, though he tickles the ears of the groundlings, he makes the judicious grieve. The Medical Service has, it is generally admitted, done better than any other branch of the Army in South Africa. Its shortcomings are attributable almost entirely to the War Office which, though warned over and over again that a breakdown must inevitably take place unless a different policy were pursued, persisted in doing everything possible, as of malice aforethought, to cripple its efficiency. It has done and is doing its work on the whole thoroughly well under every disadvantage, and a scheme of reform is now under consideration which will remedy most of the defects in its organization and positions that have hitherto prevented men who had any prospect in civil practice from entering the service Here we quite understand what it is that leads Mr. Burdett-Coutts to play the part of a "wretched, rash, intruding fool" in this matter.

He saw an opportunity of self-advertisement, and thought he would be able to pose as the reformer of the Medical Department. He has been ignored by the Government; hence those tears—and curses!

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

Carcinoma Uteri.

W. A. Freund (Berlin), at the Ninth Congress of the German Society of Gynecology, at Giessen, May 29-31, 1901, read a paper on the subject of the radical operations for carcinoma uteri, with special reference to its permanent results. The possibility of a permanent cure of this affection is presented by two experiences of Freund, namely, a woman who was still well seventeen years after an operation for a recurrence in the body of the organ after an amputation of the cervix for a cancerous node, and another woman who had no sign of recurrence twenty-three years after a total extirpation for cancerous foci in the cervix and fundus. *"Ut cancrum curare, sic eum definire perarduum est."* As to the cause of carcinoma the author is inclined to take sides with the theory of Virchow who claims that irritation is the factor and to assume a waiting attitude as to the more recent theories concerning the elements at work in this disease. Metastatic deposits by way of the blood-channels are very rare in uterine cancer and involvement of the lymphatic glands is relatively a late complication, especially when the parametrium is not affected by contiguity and only in one-third of the cases when it is. This position he holds contrary to the teachings of Wertheim. In cancer of the cervix extension usually occurs sidewise through the parametrium and finally approaches the tissues about the rectum in the hollow of the sacrum. Inoculation recurrence is naturally after operation only possible under the theory of the essential infectiousness of cancer. These facts all plead prompt operative interference. The new century must necessarily bring toward final settlement the vexed question as to the choice of methods of approach. In general terms the more fully in view a field is, the better. Therefore the abdominal route is by far the best. Contrary to the general attitude of the German surgeons, the British surgeons are coming to the stand that the operation for uterine cancer is of limited application. Unfortunately the statistics on this subject give us little aid at present.

Winter (Königsberg) read a paper on the question of the radical operations and enumerated as the chiefly available (1) supravaginal amputation of the uterine cervix; (2) vaginal total extirpation; (3) abdominal total extirpation; (4) radical abdominal operation. A very particular advance over the earlier methods of treatment is offered by the radical abdominal operation which permits not only a thorough clearing away of the parametrium, but also a removal of the lymphatic glands. These glands have been found to be diseased in from 35 to 50 per cent. of the cases. Up to the present we have 134 records of this radical operation with a mortality of 24.6 per cent., of which 18 were by infection and 12 by late collapse.

Schaute, Wertheim and Winter have each seen a fatality in this operation result from necrosis of the ureters. Therefore it is advisable not to loosen these too widely and too roughly from their beds in the retroperitoneal connective tissue. It is interesting to note that Winter usually ablates the uterus through the vagina. If, indeed, it is too large to permit of this step, he amputates the uterus just above the cervix with the Paquelin cautery and then ablates the stump of the cervix through the vagina, together with any possibly affected vaginal wall. This process Wertheim shortens by clamping the vagina just distal to the cervix and then when all is away uniting the peritoneal wound over the free end of the vagina. Winter hopes that progress will be made not through extensive operation, but through early diagnosis and promptly undertaken interference. He closed with a plea for fair-minded and truthful statistics.

Kustner (Breslau) discussed the abdominal approach to the uterus and by means of charts showed the distribution of the lymphatic channels. His position is that although the theoretical considerations are on the side of the abdominal operation, the vaginal route has by far the best statistics and appears to be a much less fatal method. The peritoneum must as far as possible be kept out of all contact with the carcinoma. The procedure of Veit seems to offer alike the best records and the best method of avoiding any poisoning of the peritoneum and consists chiefly of beginning the operation above and finishing it below. When the uterus is deeply sunken into the cavity of the pelvis, it is best not to close the peritoneum after having taken the uterus out by the vaginal route. Küstner takes two strips of gauze and sews them carefully to the uterus just before it is removed so that while they traverse the wound they cleanse it. He regards as more important full protection from the carcinomatous pus than the ablation of remote lymph-nodes. He also holds that probably in the future we will remove affected segments of the bladder and ureters.

SOCIETY PROCEEDINGS.

BRITISH MEDICAL ASSOCIATION.

(Continued from page 275.)

Section of Psychological Medicine.

Asylum Administration.—Dr. J. B. Spence read this paper in which he brought out the differences in the treatment of the insane as they existed in the earlier years of the century and the conditions found at the present time. To Tuke, Conolly, Brown, Mauds-

ley, Clouston and others have been due this progress in the amelioration of the condition of this type of diseased humanity. To some of these have been given gifts the exercise of which has enriched the pages of literature with the result of their researches; to others the more humble but perhaps hardly less useful talents for organization, for planning suitable accommodation for the various classes of the mentally ailing, and the capacity for paying attention to the numerous small details which in great measure go to make up the sum of human life, and which tend materially to promote the comfort and happiness of the individual and benefit the insane mind by ministering to the bodily wants of those who are so afflicted.

Lay Management.—He further said: "I heard it said not long ago that there was a feeling abroad in favor of lay management of our large asylums. Well, to those of us who have lived long enough this is nothing new. Ideas occur in cycles, and what to the experienced is but the repetition of an oft-exploded theory comes to those who are new to the subject, and who have not given it much consideration, as something which, to put it at its lowest, merits at least a trial. It does appear to me that in few other positions is the combination of the medical man with the good organizer so necessary as at the head of an establishment in which the treatment of the inmates is not purely medical nor purely reformatory nor merely curative, but where many methods must be employed if ultimate success in dealing with the variety of types which come under our care is to be looked for. The day is past for the expression of the cheap sneer involved in the story of the hypothetical superintendent who, when asked to see a patient, excused himself on the ground that he had just been urgently summoned to the farm where his favorite sow was littering and must be visited at once. If one desired to do so it would be possible to tell an equally good, and in all likelihood an equally untrue, story which might place the scientific side of our work in as false a light, but it is not my wish to decry, even in a joking fashion, good work of any kind, my only desire being to emphasize the point that the argument which has been brought forward in favor of lay government, and which is expressed by the statement that a doctor should stick to his work and leave the management to those who are supposed, often erroneously, to know more about it, is an incorrect one, as the main objects of an asylum—namely, the cure, care, and comfort of the patients, would be thereby frustrated, for all these can only be successfully carried out under the supervision of a man who, to the groundwork of medical training has added the experience which he, being presumably a cultured individual, is at least as capable of acquiring as the man who has merely served in an office or behind a shop counter."

Large Asylums Not Desirable.—"It is in this connection that I so regret the establishment of the huge asylums to which unhappily use is accustoming us. In the medium-sized asylums there is just that amount of work which any man who is worthy of his position should be able to supervise with due attention to the various departments into which the establishment must necessarily be divided, and where the one governing mind can so utilize the means of treatment placed at his disposal that whether the individual patient —known to the chief by name, by disposition, in his family relationships, in his special characteristics, and in his necessities—requires medical or moral treatment, the care of the sick room, or the exercise of the garden or farm, the quiet of the cosy ward, or the stimulating effect of the workshop, each can be brought into play without the risk of producing that friction which practical experience has shown to be not infrequently present when more than one controlling influence is in operation. As a question of expense, I have yet to learn that the medium-sized asylum is more costly in its management than the large establishments which, while they excite the wonder of the inexperienced, produce only feelings of regret in the minds of those who have to govern them. Nor have I had it proved to me that better results have been produced either in the treatment of the insane individual himself with regard to promotion of his recovery, the increase of his comfort when in fair bodily health, or his treatment when attacked by illness, physical or mental."

Separate Treatment of Dements.—Dr. Pearce was outspoken in praise of the movement now to be put in practice in this country of making special provision for the demented insane. These do not require the same amount of care as the acute insane and the agricultural colony system is an ideal one, although it is true that even the individual lowest in the scale of mental degradation can appreciate the bright and comfortable surroundings of the average county asylum. But when all is urged that can be brought forward to support this side of the question, the opinion is justified that while no expense should be spared to provide the necessary appliances and the most favorable environment for the curable, yet in a distinctly appreciable proportion of the incurably insane and the mentally deficient, a kindly, judicious, and truly philanthropic system of treatment might be adopted without loss of benefit to the class in question, and at a much reduced cost to the long-suffering ratepayer.

The Acute Insane.—As to the form in which accommodation should be provided for those suffering from mental disorders of a curable nature, it is a distinct advance that the trend

of educated opinion in this country is in favor of segregation, and all alienists are looking forward with interest to the result of the experiment which has been taken in hand by the East Sussex County Council, and by the authorities whose duty it is to provide accommodations for the insane poor of Edinburgh and Aberdeen.

Laboratory Methods.—The opening of an experimental psychological department in connection with the well-known pathological laboratory at Claybury is one more evidence of the interest taken in the work of the alienist by that progressive body, the London County Council, and the establishment of central laboratories in connection with the county asylums should open out a wide field for investigators who would be able to devote their entire time and energy to the study of the origin of the various mental disorders met with in practice; so that, while a glance backward reveals how much has already been done in the direction of clearing away some af the doubts which have been from time to time suggested as to the curability of insanity, one may look forward with hope to the coming century as a period during which, to put one's anticipations at the very lowest, much may be effected in the direction of prevention, even if the cure of sufferers from chronic mental disorders must remain—as in the case of many who are afflicted with bodily diseases—subjects for that humane care and attention which is the daily, trying, but noble work of many physicians.

Toxins in the Pathogeny of Insanity.—Dr. Ford Robertson opened a discussion on this subject in which he spoke more particularly of the relation of general paresis to metabolic toxemias. In general paresis gastro-intestinal disturbances are very common. Chronic trophic catarrhal processes of the intestinal canal are very widely present and in consethere is deficient metabolism and toxin formation, which toxins are absorbed by the lymphatics and thus enter into the general circulation. They contribute largely, he thinks, to the damage done to the cerebral tissues, both nervous and vascular. Special importance was attributed to syphilis, alcohol, auto-intoxication and auto-infection from the gastro-intestinal tract in producing just such lesions. The disease in which such action is manifest are the various manifestations of arteriosclerosis, senile insanity, paresis, locomotor ataxia, alcoholic insanity, dementia, acute and chronic mania, melancholia and chronic Bright's disease. The larger number of cases of insanity are not primary diseases of the brain, but are due to the action of toxins in the cortical neurons by disordering their metabolism and often permanently damaging and even destroying large numbers of them.

Treatment of Neurasthenia.—Dr. A. Schofield included under this term the general neurasthenic diathesis, hysteria, etc. In their treatment the most important factor was the personality of the physician. In regard to hysterical diseases it was important for the physician to bear in mind that diseases of the imagination are not imaginary diseases. Hysteria and neurasthenia, he thought, both arose from disorder of the subconscious mind. Sexual excesses were important and needed careful treatment. Open air and careful dietary were necessary. Neurasthenia was more benefited by rest than by exercise; overfeeding was important. Hypnotism, he thought, was of doubtful service. After convalescence the patient should not return to his old surroundings and habits, if possible.

Anthropometrical Examinations of Asylum Patients.—Dr. E. Goodall read a communication embodying many of the ideas of the French and Italian anthropological alienist devotees, in which he advocated the taking of such measurements as a routine for the asylum work.

Puerperal Insanity.—Dr. Robert Jones of Claybury opened a discussion on the subject, in which he said that in one in 1,700 confinements insanity developed in the mother. This condition was four times more prevalent following illegitimate births. Of the cases at Claybury 269, or 7.4 per cent., had had puerperal insanity. The commonest type was marked by delirium with hallucinations and mingled with religious and erotic excitement. The prominent symptoms were insomnia, headache, restlessness, apprehensiveness, auditory and visual hallucinations and dangerous impulses toward suicide and infanticide. Treatment was by generous feeding, electric baths, and hypnotics. Relapses occurring during convalescence are of bad import.

Physical Basis of Melancholia.—Dr. John Turner read this paper. Certain of the nerve-cells of the cotex, he said, present an alteration in appearance in many cases of melancholia and dementia (alcoholia). The change is similar to that which follows when the axons of the fore horn cells or those of the pontiæ nuclei have been severed. But examination of the axons (in the cord) shows that in melancholia the change is not produced primarily by interference with the axons. The change has also been noted in melancholia by Wiglesworth and others. The distribution of the lesions were as follows: The pyramidal and giant cells of the so-called motor cortex show it most clearly; in this region most of the cells being affected. It is commonly met with in the frontal and occipital regions, especially in the large cells of the latter. Of all the nuclei examined in cross sections of the medulla oblongata-hypoglossal-vagus-lateral, ambiguous, gracile, and cunette, only the first escapes, all the others show the change affecting generally the major proportion of the cells. In the cord the cells of Clarke's column are

early affected and ultimately in advanced cases the forehorn cells. In the posterior-spinal ganglia, while only a few cells show the change, many are altered in another way—densely stained and very shrunken. In the tracts of the cord only in very advanced cases is there any sign of degeneration of the myelin sheaths, and then it is the crossed pyramidal tract (axons of motor cells of cortex) which is affected. The pathological observations indicate that the cause which brings about this change is not a general one, operating on all parts of the nervous system, such, *e. g.*, as a perverted state of the blood, otherwise we should expect to find all the cells of a similar type participating in the change. This, as has been shown, they do not. Another point brought out is that the change early affects cells, and notably those of Clarke's column. The experiments of Warrington show that this change can be produced in the cells of Clarke's column by division of the posterior roots, and he assumes that in this case it is due to depriving these cells of the ingoing stimuli normally passing to them. Thus it has been established experimentally that this change can be set up in at least two ways, namely: (1) By agents having a destructive action on the axons of the cells in question (traumatism, and probably also alcohol), and (2) by agents which do not primarily affect the axons of the affected cells. These observations indicate that the melancholic cases fall into the latter class, and, further, that the state of the mind is an essential factor in inducing the change. The deprivation of the nerve-cells of their normal ingoing stimuli is the explanation offered in accordance with the writer's hypothesis that melancholic states depend on dissolutions of the nervous system affecting the sensory or ingoing section of the nervous reflex mechanism. Clinical observations from Griesinger and others are also given in support of this contention, notably the very general occurrence of anesthesia in melancholia.

SECTION OF DISEASES OF CHILDREN.

Treatment of Intussusception.—Dr. B. Pitts of London gave an analysis of all the cases occurring in surgical wards of St. Thomas' Hospital from 1875 to 1900. He pointed out that distention of the bowel might be tried, if the case was very recent, under an anesthetic and holding oneself in readiness to do an abdominal section, if necessary, at once. A severe case should at once be explored, without any previous inflation, as this only added to the shock. The intussusception should be brought outside the wound, as then the condition could be examined. If reduction were impossible resection of the bowel should be done. If gangrene were present the case was almost hopeless, as prolonged operations were not well borne by children. The sooner the child was placed in the hospital after the symptoms appeared the better. At the first onset it seemed reasonable to inflate the large bowel, but it was never certain that inflation completely reduced the swelling, and the uncertainty as to the exact condition of the bowel made it better for the surgeon to see and to handle it. The swelling of the mesenteric glands which occurred in children in intussusception, hindered reduction. Inflation might be used as a preliminary to operation. The risk of shock must be minimized by all possible means in a young child. It was better not to let the small bowel escape out of the incision, so if there were very much distention he would make a small opening into it and let out the contents—*i. e.,* gas—and then sew it up. A great danger of reduction was the chance of splitting the coat of the bowel. If reduction were very difficult he would open the sheath and reduce by a finger inside the bowel. If this were impossible he would resect the bowel *in situ*. He then referred to a diagram of a case of ileo-colic intussusception where the portion inside the colon was removed, and to another where there was invagination of the appendix. In a third case the small bowel was implanted into the large one above the old ileo-cecel valve. In a gangrenous case twenty-four inches of bowel were removed. Saline injections were of great service. The suturing of the abdominal wound should be very thorough and the stitches should be left in for a long time so as to have no prolapse of the intestines. According to the list of cases chronic intussusception was quite rare in children. In fatal cases the temperature frequently ran up at once after operation to a great height from no very certain cause. In cases brought to hospital it was better to operate at once and to try inflation also so as to get the bowel back to near where the incision should be made. In gangrenous cases the ends of the bowel should be brought outside the body and continuity should be established later. If very extensive, resection and restored continuity with Paul's buttons should be done at once.

Acute Specific Fevers.—Dr. Foord Caiger opened this discussion. He advanced a provisional classification of specific fevers based on a recognized similarity in their clinical aspect during the early period of illness. In this way a group was obtained characterized at an early stage by catarrh of the naso-respiratory tract, and by pyrexia, the group including measles, rubella, the ordinary febrile cold, and whooping-cough. The frequency of occurrence and diagnostic significance of Koplik's spots was alluded to and the spots themselves minutely described. Dr. Caiger considered them of absolutely certain import when found, but he had not found them present quite as often as some other observers. The diagnosis of certain affections attended with laryngeal stridor was next discussed, and a further group was suggested of those cases which were attended with febrile sore throat, namely, tonsillitis, diphtheria, and scarlet fever. Points of difference between diphtherial sore

throat and follicular tonsillitis were alluded to. Several axioms were laid down with reference to the diagnosis of diphtheria bacteriologically and clinically, and the value of Neissner's stain in making a positive bacteriological diagnosis of diphtheria was dwelt on. A diagnosis should never be based on a bacteriological examination alone. The differentiation of those diseases which resembled each other by the possession of a diffused erythematous eruption, namely, scarlet fever, measles, and rubella was also considered. Dr. Goodall referred to the time at which the rash in measles appeared, the prodromal rashes of measles and varicella, the remission of symptoms occasionally observed, the diagnostic value of Koplik's spots, the difficulties in diagnosing scarlet fever, and the question of the incubation period in that fever. Dr. Ashby alluded to the occurrence of Koplik's spots and the incubation period in measles, and raised a question as to the spasmodic cough occurring after influenza, the importance of recognizing large glands at the angle of the jaw as a means of diagnosis in diphtheria and scarlet fever, and the characteristic rashes of empyema and pneumonia. Dr. Poynton described some difficult cases that had come under his notice in a public school, and referred to the rash that might be due to iodoform poisoning. Dr. W. J. Tyson referred to the difficulties of diagnosis in obscure cases of so-called "gastric" and typhoid fevers. Dr. Watson Williams showed drawings of Koplik's spots, and gave his experiences in two epidemics of typhoid and measles respectively. Dr. Lovell Drage urged the importance of looking on every sore throat as a possible source of diphtheria, and deprecated the looking at every sore throat as a separate entity. Dr. Mansel Sympson referred to the enlargement of the posterior cervical glands in German measles, and to questions of the heat of the skin and convulsions in early stages of infectious disease.

Miscellaneous Papers.

Arresting Acute Endocarditis.—Dr. R. Caton of Liverpool thought that progress had been made in understanding the endocarditis of acute rheumatism and that it would not be long before the microbial origin of the disease would be absolutely recognized; not so much progress had, however, been made in the treatment of the complaint. He described the results of his treatment in 92 cases of endocarditis arising in the course of acute rheumatism while the patient was actually in the hospital. He insisted on three points. First, absolute rest in bed for at least six weeks on low diet; second, that salicylates did not do so much good to the heart as to the joints, and that such drugs as digitalis, strophanthus, etc., were on the whole injurious. Small blisters applied in succession over the præcordial area were very valuable and he discussed the action, or possible action, of these in exciting resistance to bacterial growth in the tissues of the cardiac valve. Thirdly, he gave sodium iodide with a view to promote absorption of the effused fibrinous material on the valves. He considered that in many of his cases he had quite prevented the extension of the disease and many were now in good health after considerable periods.

Professor Osler thought that they owed a distinct debt to Dr. Caton for his attempts to combat with what was undoubtedly the most serious part of acute rheumatism. He had followed out the treatment and was sure that it was the correct one, but he regretted to say that he was afraid it could only be of advantage in a few cases. It was very desirable to obtain a subsequent history of the patients at a later stage, as frequently the ultimate damage caused to the valves only became apparent after a considerable interval.

Gastro Jejunostomy in Ulcer of Stomach and Duodenum and Pyloric Stenosis.—Dr. G. Barling of Birmingham remarked on the difference in the estimates of mortality from gastric ulcer, and considered 10 per cent. to be approximately accurate. This mortality was due to perforation, hemorrhage, inanition, intercurrent disease, and cancer. A cancerous change he believed to be rare. The diagnosis was often very difficult, and neither the occurrence nor absence of hemorrhage permitted of certainty in forming a positive or negative opinion. The conditions calling for operation appeared to be in the first place hemorrhage; in acute "fulminating" hemorrhage surgical intervention was of little use; in recurrent hemorrhage either gastro-jejunostomy or direct treatment of the ulcer were the methods of choice. The second class in which operation was called for was formed by the cases of long-continued pain, vomiting, loss of weight, and repeated disability for work. Thirdly, there were the cases where gastric dilatation and stasis pointed to pyloric stenosis; and, fourthly, there were those where adhesions were the cause of stenosis or pain. The method of Loreta—pylorodosis—he did not favor, owing to the danger of rupturing the coats if efficient dilatation was carried out. Pyloroplasty was the method of choice in pyloric stenosis, except in cases where the pyloric thickening is very dense and there were many adhesions. It was inapplicable in cases of duodenal ulcer and where an operation was undertaken for the relief of pain and hemorrhage. The simple separation of adhesions was an incomplete procedure. In regard to gastro-jejunostomy he had only performed the anterior operation, and with fair success. He did not favor any method of special approximation. Delay was the chief cause of mortality after operations; the mean mortality of gastro-jejunostomy was about twenty per cent.

Thyroid and Oophorectomy for Cancer of Breast.—Dr. G. T. Beatson of Edinburgh said he brought this matter forward to open discussion on the experience gained during the five years since the procedure was described in *The*

Lancet, July 11, 1896. He gave an account of a case which he thought exemplified the beneficial effects of the treatment in a remarkable manner, for within a period of six months a large cancerous mamma had entirely atrophied and the extensive glandular enlargement present before the operation had disappeared. He made mention of what Mr. Watson Cheyne had called this "striking" control of the course of carcinoma of the female breast of oophorectomy and thyroid feeding, as furnished by other surgeons. He raised the question of the possible explanation of such results, especially in the light of those cases of apparently spontaneous disappearance or quiescence of mammary carcinoma. Cases where improvement resulted from oophorectomy he thought might bear on the etiology of the disease, since he regarded the apparent controlling influence of the ovaries as inimical to the parasitic theory of the disease. There arose further the big question, Did these results justify the adoption of such treatment as a primary method in the early stages of the disease? In concluding, he affirmed his confidence in the utility of the combined oophorectomy and thyroid feeding in cases where direct operation on the disease was impossible.

Experimental Glycosuria.—Dr. F. W. Pavy of London said that glycosuria might be taken as meaning the presence of sugar in the urine in quantity sufficient to be recognizable by the ordinarily employed rough methods of testing. Strictly speaking, however, normal urine contained a certain amount of sugar which escaped being revealed by rough testing but which was susceptible of recognition by more delicate methods of procedure. This was not taken into account in connection with the consideration of glycosuria. Under normal circumstances, although carbohydrate matter might enter largely into the food ingested, no glycosuria was observed. It therefore followed that the system had the power of dealing with it in a manner to obviate its escape in an unutilized state, as sugar, with the urine, and he thought it might be said that the physiologists now for the most part concurred with the view that it was placed in a position for utilization and its escape as sugar thereby was prevented by the assimilative action of protoplasmic matter. Living protoplasm was endowed with the power as a property throughout nature of taking appropriate matter and incorporating it into itself. In this way absorbed alimentary carbohydrate became drawn into the proteid molecules of which protoplasm consisted —for the essential constituent of protoplasm was proteid—and subsequently subjected to the influence of conditions resulting in one way or other in utilization. Assimilation thus stood as a preparatory step to utilization, and when the absorbed carbohydrate of food was fully assimilated and afterwards properly turned to account no glycosuria occurred. Experimentally induced glycosuria carried them over a vast extent of ground. The conditions giving rise to it were multitudinous and diverse. Here Dr. Pavy gave a list of conditions leading artificially to the production of glycosuria. With such a chaotic list before them it was difficult to see upon what ground they stood with respect to the manner in which the several conditions acted in producing glycosuria. The best way of meeting the difficulty would be, it appeared to him, to look to the sources from which in connection with the operations of life the eliminated sugar could be derived. Thus viewed the origin of the sugar of glycosuria could be shaped for consideration under four heads: (1) It might be derived from unassimilated carbohydrate; (2) it might be derived from stored glycogen abnormally passing into sugar which thereafter found its way into the urine; (3) a third source for the sugar of glycosuria was proteid matter (by an abnormal breaking-down process sugar became cleaved off and subsequently eliminated in the urine); and (4) the question of a fourth source from fat would be discussed. They knew that as a normal occurrence in the vegetable kingdom fat was extensively converted into carbohydrate. It was a matter for consideration if under abnormal conditions fat in the animal kingdom could constitute a source of sugar in connection with glycosuria.

Fibroids; When and Why Operate.—Dr. William Duncan opened this discussion. He said: The direct mortality from fibroids was a matter of controversy, but could not be non-existent, as one author had collected eighteen cases in which death was directly due to such tumors. The danger to health, however, was far more important as regarded the general question of operation. Many fibroids should be left alone; others caused hemorrhage—not to be disregarded —pressure on the bladder, rectum, or sacral nerves, or exhibited a rapid growth, or complicated pregnancy, and in such the question of operation immediately arose. The uterus should in the first instance always be dilated and explored; polypi might be removed, or a small submucous tumor without a broad attachment twisted out. He was not in favor, if the submucous tumor were large, of the plan of slitting the capsule, giving ergot, and trusting to the uterus to expel the tumor; nor of *morcellement*, which he considered as dangerous as hysterectomy. Myomectomy was no doubt a good way of dealing with subperitoneal growths, if single and not widely attached. He had found that the Apostoli method neither reduced the size of the tumor nor arrested the hemorrhage. Generally he preferred hysterectomy by the abdomen, and, though panhysterectomy was occasionally necessary, he had up to the present time performed intraperitoneal hysterectomy in 127 cases with 4 deaths, none of which occurred in the last 81 cases. Rapid growth of fibroids implied cystic or mucoid degeneration, and always demanded operation. In case of pregnancy, if the tumor were in the upper uterine segment, or subperitoneal and not impacted in the pelvis, it should be seldom interfered

with; in other cases the question to decide was whether we should empty the uterus, perform hysterectomy immediately, or wait till term and remove the uterus after Cæsarian section. The administration of strychnine for a week before and after operation was a valuable method of avoiding shock; hot water with bicarbonate of soda was of benefit in tympanites; nutrient enemata should be given every four hours. The ovarian and uterine arteries should be tied on both sides before amputation; the cervix should be completely covered by the peritoneal flaps, but the cervix should not be stitched, or the knots should be outside the peritoneum. Mr. Alban Doran pointed out that "retroperitoneal" was a more correct term for the hysterectomy described by Dr. Duncan than "intraperitoneal." Even interstitial fibroids if near the fundus were of little detriment to pregnancy. Not only should any sutures passed through the cervix be kept outside the peritoneum, but all stumps (of the ovarian arteries and tubes if amputated) and ligatures upon them should also be excluded. If there was any doubt as to the position of the uterine arteries it was better not to attempt to tie them till they spouted.

Maladies of European Children in Hot Climates.—Dr. A. Crombie said that, speaking generally, it might be said that the sick-rate of European children was lower in India than in the United Kingdom, the reverse to the death-rate. It was therefore obvious that the illnesses of European children were more frequently fatal in India. Were, however, malaria excluded from the diseases in India, the British child in India would have less chances of illness by 10 per cent. than the child at home. From army statistics it was shown that diseases of the alimentary canal, although generally believed to be more prevalent in India than at home, were not really so; it was the gravity of the affections in India that caused alarm. The admission rate for all tuberculous diseases appeared to be higher among European children in India; but the death-rate and case-mortality were both lower. Dr. Edward Henderson said that in Shanghai, with a subtropical climate, children appeared to suffer more during the hot months than adults. Heat not only caused bodily languor and anemia, but in addition made food was less wholesome. Bottle-fed infants were much more apt to suffer than breast-fed infants.

Disposal of the Wounded in Naval Actions.—Fleet Surgeon G. Kirker, R.N., opened this subject with a practical paper divided under three heads: (1) The surgeon's station, or the place where the wounded are treated; (2) the time of treatment: (3) the conveyance of the wounded. He said that it had always been the custom to select some well-protected and easily accessible part of the ship for the reception and treatment of the wounded and to convert it before action into a special surgical station. In the old wooden battleship the "cockpit" or after-part of the orlop deck—a place below the water-line and approached by a wide hatchway—was universally selected as the surgeon's station, and many of the scenes which had occurred there had found their way into history and art. When the iron battleship displaced the wooden one the "orlop deck and cockpit" disappeared and naval surgeons lost their prescriptive station in action. Then the captain and medical officer selected the place they thought most suitable. In this way the location of the surgeon's station was settled and owing to variations of ship-construction it would be so settled until a proper modern operation-room or modern "cockpit" was fitted up. This operation-room should be included in the internal arrangements of every modern battleship and cruiser. It need not be large and it should meet the requirements of aseptic surgery. It need not be particularly easy of access for with a properly devised ambulance sleigh the wounded man could be easily and safely taken down and along all hatchways and passages. During peace important surgical operations could be done in the operating-room and valuable surgical instruments and necessaries could be kept there. In time of war the surgical accessories would be protected during action, and after action operations would be done with more chance of success than occurred in bath-rooms or greasy mess-places. The preservation of the lives of the surgeons and the safety of appliances during action would prevent such disasters as occurred on board the Japanese ship *Hiyei* at the battle of Yalu. In this ship a shell entered the wardroom, in which the cockpit was located, killing surgeons, nurses, and wounded, and destroying all surgical appliances. With regard to the time of treatment, it was the rule in time of war to remove the wounded at once to the dressing station. In modern warships it would not be practicable to remove the wounded during action; they would be left to wait for a lull in the fighting. The Japanese found that the surgeons could do no really good work till after the action.

Skin Diseases and Light Therapy.—Dr. Malcolm Morris of London opened the discussion on the Finsen light and X-ray methods. He directed attention chiefly to the application of this treatment to lupus. In northern latitudes the sun could not be relied upon altogether, and therefore the electric light must be had recourse to, which in point of fact was therapeutically more active. In respect of current he had found one of about 70 ampères and 60 volts sufficiently strong to produce the effect required in most cases, and it had been thought better to shorten the time of exposure rather than to lessen the intensity of the light. In order to get a powerful light it was most important (1) that the lenses, especially the bottom one, should be clean and bright, and (2) that the water should be clear and free from floating particles. The bottom lens should be thoroughly cleansed and polished every day—a detail which was greatly facilitated by having it made detachable. Up to July, 1901, the total number of cases treated at the establishment under his

direction was 60. In 36 of these the disease was lupus vulgaris, in six lupus erythematosus, in 13 rodent ulcer, in one doubtful rodent ulcer, in two alopecia areata, in one cheloid, and in one epithelioma. Of the cases of lupus vulgaris eight might be claimed as instances of cure, in three the treatment was abandoned on account of failure of health, while in six the result was unsuccessful or unsatisfactory. The remainder were still under treatment. Of the cases of rodent ulcer seven were cured, in two the unsatisfactory state of the patients' health made it impossible to go on with the treatment, and two were still under treatment. Of the cases of lupus erythematosus in two the result was satisfactory, in three the treatment had to be discontinued, and one was still under treatment. Of the cases of keloid and epithelioma nothing definite could yet be said. In the successful lupus cases the number of sittings varied from 8 to 370. They were mostly favorable cases, in which the disease was superficial and of small extent. Brief notes of the cases were then given.

Rationale.—The application of the light was followed by an inflammatory reaction consisting in hyperemia and redness, followed by the formation of a bleb which broke and dried in about a week into a thick yellow crust. Healing was complete in ten days or a fortnight. In places where the tissues were loose—for instance, near the eye—there was often great swelling of the neighboring parts. The intensity of the reaction varied in proportion to the intensity of the light and also according to the structural peculiarities of the patient's skin, and especially according to the local conditions produced by the disease. In persons with thin skins the reaction was greater, while it was less marked in coarse thick skins. The reaction came on from five or six to twenty-four hours after the application of the light. It was usually slight at the beginning of the treatment and sometimes became greater as it was continued. Even after prolonged treatment it still showed a tendency to increase rather than to diminish. The Danish physicians said that the treatment was painless, but this was not strictly accurate. There was, indeed, seldom anything that could be called pain at the time the light was applied, though sometimes a feeling of heat was experienced. But the after-smarting was often considerable, and the inflammatory phenomena constituting the reaction were also more or less painful. There was seldom any constitutional disturbance. In the case of ulcerated surfaces there was, of course, no blistering or crusting; a much larger number of consecutive applications could therefore be made without inconvenience to an ulcer than to an area of intact skin. Reaction was manifested by redness and soreness which were sometimes accompanied by some swelling of the surrounding parts and great tenderness on pressure. These effects were seen about the fourth or the fifth day, and if the applications were kept up the skin around the ulcer became inflamed. According to Mr. Morris's experience the remedial effect of the light rays was directly proportionate to the intensity of the reaction; the production of a considerable reaction should, therefore, always be aimed at. If the disease extended into the deeper layers of the skin, and if there was much scarring, this formed an obstacle to the penetration of the light rays. Another circumstance which made the passage of the rays increasingly difficult when the treatment was prolonged was the pigmentation caused by the frequently repeated applications of light. The amount of pigment naturally present in the skin must also be taken into account. Brunettes were not such good subjects as blondes, and the darker they were the less amenable were they to the light treatment. Hence there were great difficulties in applying it to patients of black or mixed race. When the disease extended deeply and there was great thickening and infiltration of the tissues—*e. g.*, from previous treatment by other methods—it was difficult for the light to penetrate and a large number of exposures were required to make an impression on the mass of diseased tissue. The large extent of the area involved was sometimes a most serious difficulty, as only a small spot could be treated at a time, and thus it was scarcely possible to deal with all the nodules as they developed on the edge of the patch. The only hope of keeping pace with the disease in such cases was to retain the patient under treatment two or three hours daily. This was seldom possible as the patient could not spare the time or tolerate the prolonged immobility required. Moreover, the reactions tended to become so severe that they could not be borne. Cases in which mucous cavities were involved were unfavorable for the light treatment, but in such cases X-rays were useful owing to their power of penetration. If the disease were extensive the treatment must at the best be tedious. It should be applied daily on six days a week if there were nothing—as, for instance, excessive reaction—to make interruption necessary. In cases where there might be a special urgency the treatment might be carried out twice a day without any ill effect. The success of the light treatment depended more on the attendant who had the actual management of the details than on the medical men who had the supervision of the case. Her duties required not only intelligence or skill, but devotion.

NEW YORK COUNTY MEDICAL SOCIETY.

Stated Meeting, Held May 27, 1901.

The President, George D. Fowler, M.D., in the Chair.

Blood Alkalescence.—Dr. Heinrich Stern of New York said that blood alkalescence depends to a large extent on the amount of carbon dioxide in the blood. There is less carbon dioxide exhaled at night, because the breathing is more infrequent and, as a consequence of a certain accumulation of the acid gas in the

blood, the blood itself is less alkaline and the urine more acid. The degree of acidity of the urine in series of individuals does not follow a general law, but is eminently special for each person. It is to a certain extent a function of respiration, because the removal of carbon dioxide depends on respiration. The depth and number of our respirations differ for each individual. The amount of air breathed by persons of the same weight and build may be quite different. The presence of alkaline carbonates in the blood may contribute to lessen the acidity of the urine. The urine can even be rendered alkali by their administration. While the alkalescence of the blood bears a certain relation to urinary acidity, the degree of blood alkalescence is not a very variable quantity. It is not difficult to bring about changes in the degree of acidity of the urine. Only very slight variations, however, can be produced in the degree of blood alkalescence. The alkalinity of the blood seems to be one of the stable factors of the organism whose alteration would lead to serious disturbance of all important functions.

Personal Experiences.—Dr. Stern tried a series of experiments and observations on his blood alkalescence and its relation to urinary acidity. He took the same amount of water, about twelve hundred cubic centimeters, every day. Variations in the diet by which food values of from 800 to 1,700 calories of foodstuff were consumed did not produce corresponding variations, nor, in fact, any notable variation at all, in the alkalescence of the blood. It seemed to make no apparent difference whether the food employed was largely proteid or largely carbohydrate in composition. As the result of his experiment Dr. Stern was able to formulate the following influences: (1) As a rule, the higher the acidity of the urine, the lower the alkalescence of the blood, but there is no direct ratio between these two fluids; (2) the influence of ingesta on blood alkalescence is practically *nil*, neither the quantity nor the quality of food materials consumed modifies the alkalinity of the blood in any known direct way; (3) the urinary acidity is modified by the direct transfer of salts which are absorbed in the intestinal tract and are at once eliminated in the urine. Blood alkalescence is modified by the respiratory function.

Ingesta and Acidity of Urine.—Dr. L. Fougères Bishop said in discussing the paper that Dr. Stern had shown that the acidity of the urine is independent of the quantity or quality of ingesta. Blood alkalescence and urinary acidity normally follow a physiological cycle, which produces a series of changes not unlike the temperature curve of the day in normal individuals. While the reaction of the blood is due to a very complex set of influences, blood alkalescence is extremely uniform, and this uniformity seems necessary in order to preserve health. The hydrochloric acid that is so indispensable to digestion is somehow derived from the blood. Its presence in the stomach and the influences that lead to its formation may be the basis for the changes that cause diminished acidity of the urine after meals. At this time the kidneys have, as it were, less acid material to excrete because a certain amount of the acid present in the body has been secreted into the intestinal tract from the stomach-walls. Speculatively we have been acustomed to think of blood alkalinity as a quality that could be varied almost at will. Experiment shows its permanence and adds a new item to our knowledge of stable human metabolism.

Pregnancy After Myomectomy.—Dr. James N. West read a paper on this subject, advocating conservatism in gynecology. He pointed out the fact that in a great many cases myomata can be removed, leaving the uterus to perform its maternal function afterward. With regard to the treatment of myomata, there has been a great variety of opinions. A cycle of teachings from overconservatism, embracing treatment by drugs and by electricity, to needless mutilation involving the radical removal of the uterus whenever a myoma was present, has been passed through. Between these extremes, both worthy of condemnation, there is a middle course to which conservative gynecologists are rapidly being converted.

American Experiences.—In 1884 Emmet reported his own experience with myomectomy. He had performed five operations, but all of his patients succumbed. He collected over three hundred cases from the literature and showed that, even in the best hands, the mortality of radical treatment of myomata was at least 47 per cent. He warned the general practitioner that he must not expect to be even as successful as this, and must not hope to save even one out of every two patients. As a marked contrast to this opinion, Dr. West quoted the declaration of Kelly of Johns Hopkins, made last year, that myomectomy may be performed without any danger, and that the uterus may be left to perform its function as before. Professor Emmet has come to have the same opinion as the result of his own further experience in the treatment of these tumors.

Pregnancy and Myomectomy.—In 1890 Professor Krolein removed a myomatous tumor weighing eight pounds from a young woman, who was at the time engaged to be married. Kronlein thought that in removing the tumor he had penetrated the uterine cavity. What he thought to be the uterine cavity, however, proved to be only a lymph space in the uterine tissue. Six months afterward the patient married and became pregnant after five months. Her pregnancy ran a normal course and labor came on in due time. The expulsive forces of the uterus proved insufficient and forceps had to be used, but a healthy living child was de-

livered, and there was normal delivery of the placenta, without unusual incidents. The rest of the puerperium proved normal. Quite a number of cases resembling Kronlein's have been reported to date. In Dr. West's own case nine incisions were made into the uterine muscle in order to remove fourteen myomatous tumors, and yet the uterus at labor proved to have perfectly normal expulsive force.

Types of Tumors.—When the myomatous tumors are encapsulated and form a distinct portion of tissue by themselves, they should be enucleated. When, however, the myomata are not definitely limited, but there is myomatous degeneration of large portions of the uterine muscle, the time for the removal should be put off as long as possible, using all ordinary methods of treatment. When symptoms become so severe that removal is absolutely indicated, then the uterus should be amputated, leaving the cervix and the ovaries untouched, if they are healthy, in all women who have not yet reached the menopause. These methods of treatment will save much suffering and will preserve internal functions in many cases, while in others it will at least not cause precocious menopause with its many annoying symptoms.

Accurate Diagnosis.—Dr. Bache McE. Emmet said that myomectomy demands above all things accurate diagnosis. Theoretically, it is easy to remove an encapsulated myomatous tumor, but it is not always so easy to determine exactly the pathological condition from which the woman is suffering. When there is extensive bleeding the cause should be determined. For this the important diagnostic point is the dilatation of the cervix by means of sponge-tents. The removal of myomata will not, however, always insure subsequent pregnancy. Often with fibroids there is adnexal disease present. Not infrequently also the tubes become affected as the result of the congestion in the genital tract.

Danger of Operation.—The danger of myomectomy is not as small as is sometimes asserted. The risk of secondary hemorrhage still remains and may prove fatal even under good conditions. In addition to this patients from whom myomata are removed sometimes suffer from edematous conditions that may lead to serious complications. There is in all cases a certain amount of danger that tumors will relapse. Not that the old tumors grow again, but where there has been adventitious material that has caused the development of one or more tumors there may prove to be embryonic collections of tissue that will develop further tumors after primary removal. Patients should not be given too much assurance that their condition will be absolutely cured by operation.

Selection of Cases.—Dr. W. Gill Wylie said that if the cases could be selected theoretically perfect results could be obtained. When one or more encapsulated tumors exist and the rest of the genital tract is absolutely healthy, there is no difficulty at all in removing the tumors. Usually, however, fibroid tumors are complicated by other serious conditions. As a rule, they give practically no symptoms of their presence until complications set in. Very few cases are suitable for myomectomy that give enough symptoms to make the patient willing to have it done.

Methods of Treatment.—In young women, as a rule, curetting will relieve a tendency to sterility quite as often as will myomectomy. The tumor should be removed if it threatens to be a source of danger, or productive of interference with the normal course of labor. Small myomata, however, may exist in the uterine wall and fail to enlarge during pregnancy. The pregnancy may proceed to a normal termination without the tumors interfering in the slightest bit with either its progress or culmination. An encapsulated myomatous tumor interferes no more with the uterine muscle than does the space produced by its removal.

Malignant Degeneration.—There is a certain amount of danger of fibroid tumors of the uterus becoming malignant. This danger is much more than is usually supposed, and many cancers in the body of the uterus have their origin in an old fibroid tumor. If fibroid tumors show any signs of activity in patients over forty, the whole uterus should be removed in order to avoid the danger of possible malignant degeneration.

Contra-Indications to Myomectomy.—Whenever there is chronic endometritis, especially if there is good reason to think it of gonorrheal origin, simple myomectomy should not be done, but the entire uterus should be removed. Gonorrheal endometritis is extremely obstinate in its course and practically resists all treatment. It may lead to peritonitis and its presence will keep up most of the symptoms from which the woman has been suffering before. There is a tradition that fibroid tumors will decrease after the menopause. It is always illusory to wait for this period in the hope that the tumors will decrease in size. The period of the menopause is an extremely dangerous one as regards cancer. There is an unsettled state of the involuting uterine tissues which easily predisposes them to malignant degeneration. The presence of a fibroid may easily prove the irritative stimulus that gives rise to malignant tumor. Fibroids and cancer it must be remembered often go together.

Senile Menstruation.—As a rule, if women menstruate after fifty, the supicion of the presence of a fibroid must be aroused. Sometimes this long persistence of menstruation is heredity. In certain families the persistence of menstruation for years after the usual climacteric is a well-known family trait. The recur-

rence of menstruation, however, after the usual cessation of the menopause has set in is pathognomonic of cancer in most cases and must, of course, be specially noted.

Comparative Radical Operation.—Dr. A. Palmer Dudley said that simple myomectomy is really a more radical operation than hysterectomy in the sense that it sometimes involves more danger and requires more careful technic. It is a serious thing to deliberately make a wound in a muscle richly supplied with blood and then, after simple suturing, drop this back into the abdominal cavity without instituting drainage. Recent experience, however, has shown that myomectomy can be performed without any added risk and to the evident advantage of the patient. Dr. Dudley's own experience in some few hundred cases is most encouraging and shows how much can be done of operative work on the uterus and yet allow the patient to retain all her functional capacity.

Contra-Indications to Myomectomy.—In Dr. Dudley's opinion myomectomy should not be performed in patients who are approaching the menopause. That is to say, as a rule, who are much over forty. It should not be done either in patients in whom there is a history of chronic gonorrhea. When gonorrheal endometritis with corresponding infection of the tubes and perhaps, also, of the ovaries, has developed it is almost futile to hope for any amelioration of symptoms except by radical removal of the uterus with the adnexa. Very often the symptoms will be found to be due to chronic gonorrheal infection rather than to the fibromyomata, in which case, needless to say, the removal of the tumors will not produce the promised amelioration of symptoms. Another contra-indication is the existence of recent syphilis. Here there is question whether the relief of the sterility and resulting conception will really be of benefit to the patient. The children are apt to suffer from the disease.

Social Status of Patients.—In the better class of patients, who are able to take every means to alleviate their symptoms and who may, if necessary, rest for long periods, the removal of myoma should not be suggested as early as in patients of the poorer classes, who have to work hard for their living, but to whom valetudinarianism is an impossibility. Myomectomy should not be done when, at the time of the operation, the uterus is found scarred and deformed as the result of the removal of other tumors. Hysterectomy is then the indication. When tumors are large, they may be taken away piecemeal and the uterus will gradually contract and prevent bleeding and also fill up the space that the tumor has occupied.

Operative Technic.—If in these operations the tubes are found to be patent, or whenever there is no sure indication of their closure, the surgeon has no right to remove them. As a rule, when fibroids are removed, drainage through the uterus by means of gauze is indicated. If it is feared that there will be considerable oozing, drainage may be made through Douglas's pouch. It is sometimes forgotten how easily this may be done without any subsequent inconvenience.

Operative Enthusiasm.—Dr. West in closing the discussion said that he pleads guilty of enthusiasm in the matter of conservative operation upon the adnexa of women. Some years ago it was not an unusual thing to see exhibited a perfectly healthy uterus that had been removed because of a small polypus that might easily have been taken out without disturbing the uterus itself. It is true that certain symptoms due to adnexal implication are usually noted in cases of myomata. These will, however, commonly disappear and the patient be restored to perfect health when the myoma is removed.

Myomata and Malignancy.—It has now grown to be an almost uniform belief that myomata do not develop into cancer, nor degenerate into any form of malignancy. The number of tumors in the case seems to mean nothing. In Dr. West's case sixteen tumors were removed, leaving nine scars, and yet labor was accomplished with almost absolute normality.

Vaginal Myomectomy.—Dr. Paul F. Mundé reported a case in which thirty-four myomata were removed by the vaginal route. In this case pregnancy followed myomectomy and the labor proved practically normal. It is probable that many of the operations for myomectomy, which are now done by the abdominal route, could be performed with just as much satisfaction through the vagina and without the added danger of certain post-operative inconveniences that are apt to follow the abdominal operation.

Hospital and Dispensary Mismanagement.—Dr. Thomas J. Hillis made some remarks additional to previous papers on the subject of the mismanagement of hospitals and dispensaries. This paper will appear in a subsequent issue of the Medical News.

Sickroom Bathtub.—Dr. Bellamy presented a model of a bathtub that can be used very handily in a sickroom in the treatment of such diseases as typhoid fever, in which full baths are required. There is no doubt that the bath treatment is essential in many cases of typhoid. Stewart of Montreal declares that many hemorrhages have their origin in the bathtub and that they are really due to trauma from heroic handling. The tension on the abdominal muscles during the time of lifting in and out of the tub causes the rupture of small arteries at the basis of the typhoid ulcers. Rest is important and this tub provides for it. The apparatus is on rubber wheels and may be brought to the side of the bed and an inclined plane is provided down, or up, which the patient may be gently moved to the tub. He rests here on a

perforated false bottom which can be raised to the top of the tub and then slowly lowered after the patient has been placed in it. The raising out of the tub is accomplished by means of this same false bottom.

Points in Bathing Technic.—The patients should not be plunged at once into water of uncomfortably low temperature. The first bath in typhoid should be given at a temperature not much below 100° F., the water being allowed to cool off gradually while the patient is in the tub. Instead of the shock that so often terrorizes patients, as the result of the first bath, there should be a positive feeling of comfort. After a time patients realize how much their feelings are improved by the bath and then they stand the preliminary shock of colder water much better.

Comfort of Typhoid Patients.—Attached to the bathing apparatus suggested by Dr. Bellamy, there is a force pump for bringing water to, or forcing it out, of the bathtub, in cases where the supply of water is at some little distance from the sickroom. It is important that a typhoid patient should have a comfortable bed. The more restful a patient is, the less danger of complications. There should therefore be either two mattresses or two beds for his use. He may easily be transferred from one bed to another, just after his bath, or during the bath the second mattress can be substituted for the first. The successful treatment of typhoid depends not on any special system of drug treatment, but on attention to minute details.

BOOK REVIEWS.

THE MUSHROOM BOOK. A Popular Guide to the Identification and Study of Our Commoner Fungi, with Special Emphasis on the Edible Varieties." By NINA L. MARSHALL. With many Illustrations in Color and Black and White. Photographed from Nature by J. A. and H. C. Anderson. Doubleday, Page & Co., New York.

THE fascinating glimpse that Mr. William Hamilton Gibson gave his readers, of the World of the Woods, reached its height when he brought out his Mushroom Book. It represented literally but a taste of what the woods would yield to the hungry, and of what literature would bring forth to satisfy inquiring minds. Since then there have been a number of mushroom books, some thoroughly scientific and satisfactory; others not so; but Doubleday, Page & Co. now bring out *the* Mushroom Book, with the most beautiful series of photographs taken from Nature in color and in black and white that have ever been published.

A very clear and simple text has been written around them, in which the technical difficulties of the fungus "lingo" have been reduced to plain, every-day words, so that anybody might be able to determine a common specimen, and get a very comprehensive knowledge of the most important families.

A certain familiarity with the fungi, especially with some of the deadly species that resemble the edible fungi, is becoming absolutely indispensable to physicians. People flock to the mountains and country side armed with the newest fad for recreation, of which mushroom hunting, with gustatory bent is one, and in spite of careful descriptions and plentiful illustrations the little knowledge often proves a dangerous thing. We therefore would advise physicians who are likely to practice in the vicinity of enthusiasts to get this last of the Doubleday series of Nature buds, and learn to distinguish good from evil in the mushroom world.

A SYSTEM OF PRACTICAL THERAPEUTICS. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Second Edition. Vol. III. Lea Brothers & Co., Philadelphia and New York.

THE practical character of this system is nowhere more exemplified than in this third volume. It deals almost exclusively with surgical therapy —Anesthesia and Anesthetics, Surgical Technique, Fractures and Dislocations, Minor Surgery and Bandaging, Cerebral Concussion and Shock, Pleural Effusion and Empyema, Gangrene of the Lung, Peritonitis, Appendicitis, Abscess, Obstruction, Diseases of Rectum and Anus, Therapy of Genito-Urinary Tract in Male and Female, Therapy of Childbearing, Diseases of Eye, Ear, Nose and Throat from the Standpoint of the General Practitioner.

A glance at this condensed summary of the contents shows the every-day utility of the work and when it is added that each subject is considered by men of established reputations, who have had in mind the needs of the active worker in medicine, the practical character of the system needs no further comment.

MOSQUITOES. How They Live; How They Carry Disease; How They Are Classified; How They May Be Destroyed. By L. O. HOWARD, PH.D., Department of Agriculture. McClure, Phillips & Co., New York.

MOSQUITOES are in the air at the present time —both in the ambient and literary atmosphere. To bring them to earth, however, and to know their ways and how they may be rendered less obnoxious is the object of this admirable volume.

The author, as head of the Bureau of Entomology, is thoroughly *en rapport* with his subject and has breathed into its pages throughout the living breath of actual contact with the "critters." Most physicians know a few of the species to their discomfort; we recommend this work to those who would know more about them, especially those who would learn the ways of exterminating the pests.

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ORIGINAL ARTICLES.

BLOOD EXAMINATIONS AS AN AID TO SURGICAL DIAGNOSIS.[1]

BY JOSEPH C. BLOODGOOD, M.D.,
OF BALTIMORE, MD.

Shock and Hemorrhage.—Observations have demonstrated that there is a leucocytosis of 15,000 to 24,000 following hemorrhage. As a rule, this comes on within a few hours. There are not sufficient observations to demonstrate the relation between the amount of blood lost and the leucocyte-count. We have not sufficient data to clearly determine the exact changes in the number of white blood-cells in shock from injury alone without loss of blood.

Following hemorrhage, in addition to the rise in the number of leucocytes, there is a diminution in the number of red blood-cells and the percentage of hemoglobin. In severe hemorrhage a blood-count will indicate to a certain extent the amount of blood lost, but, as a rule, not until six or more hours have intervened after hemorrhage.

Examinations of the blood after contusion of the abdomen, to ascertain, if possible, whether we can distinguish by the changes in the elements of the blood the difference between shock from the injury alone, internal hemorrhages, and peritonitis from rupture, are not sufficient in number to allow any positive conclusions.

Cabot[2] writes: "Often one hears the question discussed in any accident-room in any hospital whether to operate at once or wait until the patient has got over the shock. The question is not often asked, far less answered, whether the shock is simple or largely anemic (cerebral or general) from loss of blood, or whether it is of nervous origin, *i. e.*, due to concussion or compression. The right decision of this question is of great importance, for if the shock means anemia transfusion may be indicated, while in a condition of cerebral concussion or compression transfusion will probably do harm." (Authorities do not agree with Cabot. Transfusion is not contra-indicated. See *Progressive Medicine*, December, 1900, p. 108.) "An examination of the blood enables us in certain cases to decide such a question—that is, if the number of red cells is considerably diminished (3,500,000 or less) and the patient is known not to have been previously anemic, the shock probably means hemorrhage." "The blood-count may enable us to gauge approximately the amount of hemorrhage. Here it should be remembered, however, that immediately after hemorrhage the count may be normal, since only the amount and not the quality of the blood is affected. Within a few hours, however, fluid is absorbed from the tissues into the vessels, and then an anemia will be indicated by the blood-count." "An internal or cerebral hemorrhage, a rupture of an extra-uterine pregnancy, ruptured aneurism, laceration of the spleen, kidney or liver, etc., can sometimes be diagnosed by the blood examination."

McLean,[3] in his article entitled "Examination of the Blood in Surgical Diseases," practically adds nothing new to Cabot's statement in regard to the blood examination in shock.

The Importance of a Careful Blood Examination Preliminary to General Anesthesia.—There are now sufficient observations to demonstrate pretty conclusively that in marked anemia, especially when the hemoblobin percentage is low, general anesthesia, especially if prolonged, is dangerous. Some authorities give 50 per cent., others 40 per cent., but the majority agree that 30 per cent. of hemoglobin is a danger signal, and, if possible, the operation should be delayed until appropriate treatment has been used to increase the percentage of hemoglobin and the number of red blood-cells.

This important subject has been studied by Cabot (*loc. cit.*), Da Costa, Mikulicz, Hamilton Fish,[4] and others.

My own experience[5] has been sufficient to indicate the truth of their statements. An anesthetic has great additional dangers when given to patients with the hemoglobin estimate below 50 per cent.

Post-Operative Leucocytosis.—There is need for much more study on this question. Most authorities agree that following ether there is *perhaps* a slight increase in the leucocytes, which, however, disappears within twenty-four and at most thirty-six hours. In operations with much loss of blood there would, of course, be a temporary rise in the leucocytes; but, on the whole, in the average operation one should expect the leucocytes to be within the normal limits—twenty-four hours after operation. If this is true, a sudden rise in the leucocytes would indicate some post-operative complication. In abdominal surgery it would suggest peritonitis, although if the peritonitis was a very grave infection the leucocytes would soon fall rapidly. Perhaps the leucocyte-count as an aid to the post-operative diagnosis in abdominal surgery is most certain in the early recognition of obstruction. Here there is always a rise, usually over 20,000, associated

[1] Paper read before the American Surgical Association, at Baltimore, May 6, 1901.

[2] "Clinical Examination of the Blood," William Wood & Co., New York, 1898, and "International Text-Book of Surgery," Warren & Gould, 1900, Vol. I., p. 81.

[3] MEDICAL NEWS, December, 1899, Vol. LXXV., p. 713.

[4] Annals of Surgery, 1899, Vol. XXX., p. 79.

[5] Progressive Medicine, Dec., 1900.

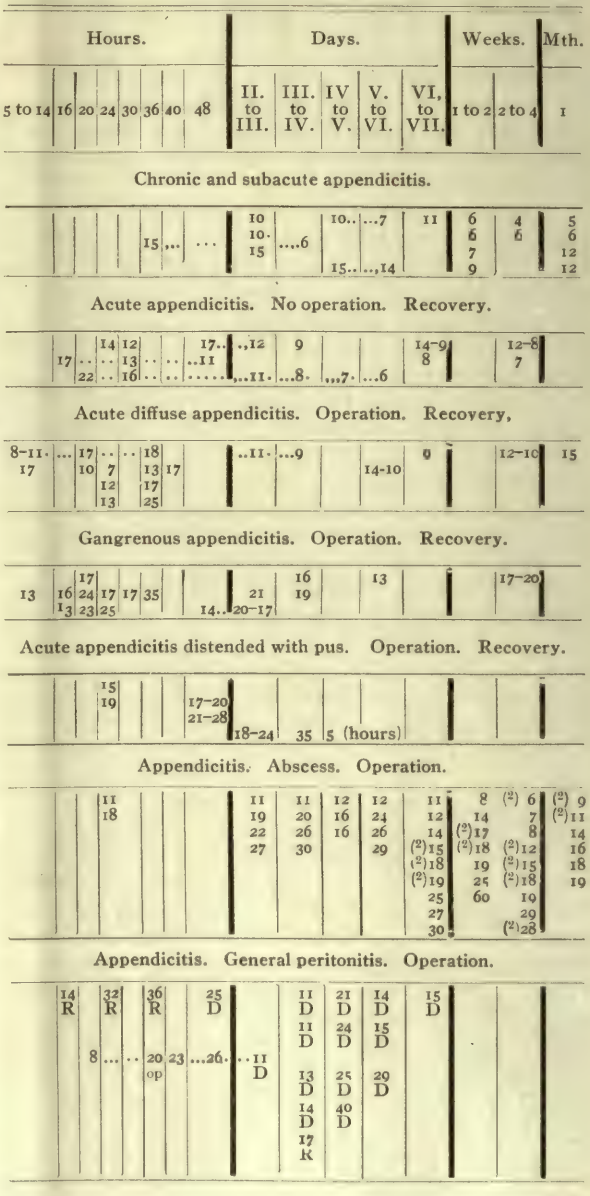
with any obstruction of the intestines. This rise generally takes place within from eight to twenty hours after the beginning of the obstruction, and in a few cases observed the rise in the leucocytes had been prominent before the clinical symptoms themselves were sufficiently clear to make a positive diagnosis. The number of observations so far have demonstrated that when, after laparotomy with general anesthesia, the patient develops slight distention, or even marked distention, with nausea and vomiting, which seems more or less due to paralysis of the intestines, and not to a definite obstruction or peritonitis, *the leucocytes do not rise,* at least not above 12,000 to 15,000. If these observations are confirmed the counting of the white blood-cells would be a great aid in the differential diagnosis in the first twenty-four to forty-eight hours or later, after laparotomy, between benign abdominal distention and obstruction or peritonitis, for which operative interference would be indicated early. This is apparently a closer relation between the extent and character of the operation and the post-operative leucocyte-count than the anesthetic. A more complete report on this is in preparation and will be published later.

Post-Operative Phlebitis.—In a few cases observed there is a rise in the leucocytes, varying from 15,000 to 20,000. Such a leucocytosis has been observed frequently in typhoid phlebitis; but, on the whole, the observations of the changes in the leucocytes after operation are not well established.

If the phlebitis is confined to the iliac veins the first symptoms are those of an acute abdominal lesion, viz., localized pain and slight muscle spasm in the iliac fossa, nausea and vomiting. If on the right side, after operation, the condition might simulate an appendicitis, or, in women, a salpingitis. In typhoid fever the early clinical picture is very much like intestinal perforation. A case of this character has been reported by Harvey Cushing[6]; also by William S. Thayer[7] in his article entitled "Observations of Blood in Typhoid Fever."

The Importance of the Leucocyte-Count in the Early Recognition of Acute Abdominal Lesions.—The discussion of this subject is the chief theme of this paper not only because of its importance, but, fortunately, in this field we have more observation.

Explanation of Table.—The following table represents all the counts made on cases of appendicitis. The first count in practically every instance was made when the patient was first admitted to the hospital, and this count is placed under the time corresponding to the number of hours or days since the beginning of the acute attack; subsequent counts (if made) are noted by dotted lines after the first count under the proper time. In the cases operated upon the last count represents the time of the operation, with one exception, in the group *appendicitis, general peritonitis, operation.* The letters Op. under the figure 20 represent the time of operation. The three subsequent counts are post-operative, and show the fall in the leucocytes, with general peritonitis. Under the column *appendicitis, abscess, operation,* there are only single counts. The figures 2 or 3 in front of the figures, representing the number of leucocytes, indicates that there were two or three cases with this number of leucocytes at this time. Under the column *appendicitis, general peritonitis, operation,* the letter R indicates the patient recovered, and D the patient dead. The time in these cases represents the entire interval of the acute attack, and not the duration of the peritonitis, which, in the majority of cases, was impossible to ascertain.



Leucocytosis in Appendicitis.—When observed within forty-eight hours the number of white blood-cells is in a majority of instances of great

[6] Johns Hopkins Hospital Bulletin, No. 92, November, 1898.
[7] Johns Hopkins Hospital Reports, Vol. VIII., 1900.

value, indicating the extent of the inflammatory condition of and about the appendix. This fact is well illustrated in the table.

Chronic and Subacute Appendicitis.—Sixteen counts. Here we have cases of recurrent appendicitis, or of appendicitis suffering from the first attack; first observed practically at the end of the attack, when the clinical symptoms were subsiding or practically over. The almost uniform, low leucocyte-counts, even in this small group of cases, are very suggestive that such an observation is an important additional aid to recognize that an acute attack of appendicitis is subsiding, or, when, seen later after the clinical signs have entirely disappeared, the distance of leucocytosis should be considered a distinct factor in excluding an abscess. It is noticed in the table that the highest count in this group of cases was 15,000. In one case, admitted thirty-six hours after the beginning of the attack, in which the local clinical symptoms were distinctly less according to the statement of the patient, and which when admitted were just sufficient to suggest an appendicitis, these slight local symptoms disappeared, asssociated with a fall in the leucocytes to 10,000 and 6,000. A later operation demonstrated a diffuse thickened appendix, but no pus. Observed between the second and seventh day the leucocyte-counts have been 15,000 in two cases, 10,000 in two cases, in one falling to 7,000, and in one case 11,000. *With but a few exceptions* these are distinctly lower counts than in the other groups of cases. In all of these cases, at an operation performed later, a simple diffuse appendicitis was found with no pus or evidence of infection outside of the appendix. In ten cases observed from one week to one month or longer after the last acute attack, in only two cases were the leucocytes as high as 12,000; the remainder were 9,000 and lower. In a majority of these cases there were no clinical symptoms; simply a history of one or more previous attacks. At the operation a diffuse appendicitis was found, with no evidence of pus outside of the appendix. Comparing this group with cases of appendicular abscess admitted from one week to one month or longer after the beginning of the attack (thirty-three cases) we see distinct differences. In those cases with abscess, only six out of the thirty-three cases had leucocyte-counts below 12,000. Some of these thirty-three cases of abscess exhibited no clinical evidence of tumor. This observation demonstrates that in cases of appendicitis admitted *late* in the attack a *high* leucocyte-count is almost a positive evidence of an *abscess,* even when the clinical symptoms have entirely subsided and the abdominal examination is negative. In a few cases, *but only a few,* we may expect to find a small localized abscess, even when white blood-cells show no marked increase; but this is a rare exception to the general rule.

Future observations may demonstrate that the leucocyte-count will aid us in indicating the better time to operate in cases of appendicitis with abscess. Many of these patients come to the hospital at the end of the attack, the clinical symptoms are subsiding or have ceased, and we usually find on abdominal palpation an area of tumor or induration, suggesting a localized collection of pus, which in some instances, however, proves to be a mass of adherent omentum. Now and then in such cases when we have delayed we have found that the localized pus has become much inspissated, and the virulence of the organism may have decreased. Experience would seem to demonstrate that if the pus is distinctly localized, and the symptoms on the decrease, it is, perhaps, the safer plan to delay the operation to a date when the difficulty of removing the appendix and the danger of infecting the general peritoneal cavity would be less. Our cases require a more minute study before such a conclusion can be demonstrated.

Acute Appendicitis; No Operation; Recovery.—In the cases admitted within forty-eight hours with acute symptoms, if on account of the clinical picture, operation has been delayed, we have always observed a falling leucocytosis. These patients have recovered, and at a later operation the appendix is found to be the seat of a diffuse inflammation, but there has been no evidence of pus outside the appendix. In one case admitted sixteen hours after the beginning of the attack the leucocytes fell in ten hours from 17,000 to 13,000, and in twenty-four hours to 11,000, associated with the disappearance of the symptoms. With one exception the highest first leucocyte-count in this group has been 17,000, falling in a few hours to 12,000, 9,000, or even lower. A patient admitted twenty hours after the beginning of the acute attack had a leucocytosis of 22,000. The clinical symptoms, however, were not very marked. The patient was observed eight hours. During this period the leucocytes fell to 16,000, and the local symptoms practically disappeared. Within the next twenty-four hours the leucocytes were 11,000, then 8,000, 7,000, then 6,000. Although this patient with a leucocytosis of 22,000 at the end of twenty hours recovered, and there is every reason to believe that the inflammatory condition about the appendix subsided, nevertheless it is an exception to the general rule, and it would be safer, I believe, to operate in those cases of acute appendicitis observed within the first forty-eight hours with a leucocytosis of 20,000.

Acute Diffuse Appendicitis; Operation; Recovery.—Eleven cases. The leucocyte-counts in this group of cases do not differ much from those in the group of acute appendicitis which were not operated on until after the end of the acute attack, and, of course, it is a question whether all of these cases might have recovered from this attack without operation. It is to be noted that in one case observed in the hospital the leucocytes rose from 8,000 to 18,000, and a second from 13,000 to 17,000. In *three cases* there was a fall in the leucocytes from 10,000 to 7,000, from 11,000 to 9,000, and from 14,000 to 10,000. In two cases observed at the end of two days and five days it was a question whether the patient

was getting over the attack or not, but it was considered wiser to operate. A simple diffuse appendicitis was found. In the third, admitted twenty hours after the beginning of the attack and observed four hours, the patient clinically was distinctly getting worse; the leucocytes had fallen from 10,000 to 7,000. The only high leucocyte-count in this group of cases was 25,000. This patient was seen thirty-six hours after the beginning of the attack, and clinically the attack seemed to be subsiding, but on account of the high leucocytosis it was considered best to operate. In this case the exudate about the thickened appendix was very excessive, and it is a question whether, if operation had been delayed, an abscess would not have developed.

The following two cases are reported in detail, the first because the patient was observed in the hospital from the beginning, and represents the typical rise in the leucocytes from 8,000 to 18,000 in thirty-six hours, associated with an acute diffuse appendicitis. It cannot be stated in this case whether the patient would not have recovered from this attack, but the rise in the leucocytes was a distinct aid in the early recognition of the disease, which was associated with but slight local symptoms.

The second case is reported in detail, because it represents the rare exception of a low and falling leucocytosis associated with a distinct increase in the local symptoms, in which case the operation was indicated chiefly on account of the increasing local signs, although a careful observation indicated a falling and a low leucocytosis.

Case I.—The patient, a girl, aged seven years, was admitted to the hospital with a rather indefinite history of previous attacks of pain and the history of pinworms in the stools. When first admitted and observed for seven days there were no symptoms. Suddenly, one night, she began to complain of abdominal colic, which, in a few hours, localized itself in the right iliac fossa; in six hours the leucocytes were 8,000; ten hours, 11,000; twenty-four hours, 17,000; thirty-six hours, 18,000. During this time the temperature rose from 98° to 100° F.; no nausea nor vomiting. The local symptoms consisted only of slight muscle spasm and tenderness in the right iliac fossa. The slight local abdominal symptoms, combined with the quite high leucocytosis, were considered sufficient to indicate an early operation. The appendix was free, but thickened by diffuse inflammation; the lumen of the appendix was filled with small pinworms.

Case II.—A colored man, aged about twenty years, entered the hospital with a history of diarrhea and colic of one week's duration, and of local symptoms; pain in the right fossa, suggesting appendicitis of twenty-four hours' duration. At first examination, temperature 104.2° F., pulse 99, respiration 30. The patient's expression was one of stupor; tongue coated, but moist; leucocytes 10,000. The abdominal symptoms were so slight that the possibility of typhoid fever was considered, and a Widal test made, which was suggestive, but not positive. I saw the patient four hours later. At this time the leucocytes had fallen to 7,000, and the temperature to 102° F.; but, on examination, the tenderness and muscle spasm in the right iliac fossa had slightly increased, and there was a distinct area of dulness in the right flank, which suggested encapsulated fluid. At the operation a diffusely thickened and inflamed appendix was found covered with a little fresh exudate, and there was some free, cloudy, sterile fluid in the abdominal cavity. The chief collection was retrocecal where the appendix was situated. After the operation the patient continued to have intermittent fever for a week, the cause of which we could not make out; there were no malarial organisms; the Widal reaction was not positive, and there was no leucocytosis. He made an uninterrupted recovery.

Gangrenous Appendicitis; Operation; Recovery.—In this group of cases, as a rule, the leucocytosis is higher and rises more rapidly, and in three instances it has been of the greatest importance in the early recognition of a grave inflammatory condition of the appendix, which, without doubt, would have led to general peritonitis and death if early operation had not been instituted. In one case the rapid rise in the leucocytes was practically the only clinical evidence of a grave abdominal condition. The patient, a boy, suffered from an attack of pain and nausea, and vomiting followed a few hours after taking a good deal of indigestible food. When the stomach relieved itself there was no further pain and no further abdominal symptoms. After twenty-four hours the leucocytes were 17,000. A leucocytosis of 17,000 in a patient a number of hours after taking food would make one suspicious of an inflammatory lesion. In thirty hours the leucocytes were 17,000, and in thirty-six hours 35,000. The highest temperature was 100° F. There were practically no abdominal symptoms, except the history of a short attack of colic and vomiting following indigestible food. Because of this rapid rise and the high leucocyte-count (35,000) it was considered safer to explore the abdomen. A gangrenous appendix with beginning purulent pelvic peritonitis was found. A second and almost similar case was observed when the leucocytes rose from 13,000 to 24,000 in twenty hours after the beginning of the first colicky pain, the first count being fourteen hours after the beginning of the pain. In this case there were, in addition, marked clinical signs of appendicitis. In the third case, with very slight local signs, the leucocytes rose rapidly from 13,000 to 23,000 in twenty hours (first count sixteen hours).

These three cases of gangrenous appendicitis I report in detail because they demonstrate the great diagnostic importance of the leucocyte-count:

Case I., observed by Dr. Thomas R. Brown in this city, communicated to me personally, is perhaps the most important. The patient, a boy, aged eleven years, indulged freely one Saturday

night about 8 o'clock in strawberry ice cream and soda water; at 4 o'clock the next morning he was awakened by severe epigastric colic, nausea, and vomiting. The patient was seen by Dr. Brown at 8 a.m. (four hours); temperature 98° F., pulse 76. He was given a seidlitz powder and powders of subnitrate of bismuth. The abdominal examination was negative. He was seen again at 10 a. m. (six hours); no change in the symptoms; no nausea or vomiting. At 6 p. m. (twelve hours) the temperature was 98.8° F., pulse 86. There had been a stool; the urine was voided without pain; he was apparently very comfortable, and complained of no pain; abdominal palpation was negative; he looked, however, a little languid. There was nothing in the clinical picture to suggest that the condition was anything more than that to be explained by indigestion. On Monday morning at 8 o'clock (twenty-eight hours after the attack of colic) his temperature was 99.4°., pulse 95. He had passed a comfortable night; no nausea or vomiting; no abdominal symptoms, but he looked a little more depressed. The leucocyte-count at this time was 17,000. (A leucocytosis twenty-eight hours after an attack of abdominal colic in a patient taking practically no food is an indication of some inflammatory condition.) At 11 o'clock the leucocyte-count was 17,500, temperature 100° F., pulse 100, but no abdominal signs. At 4 o'clock (thirty-six hours after the beginning of the colic) the leucocyte-count was 35,000, temperature 100.6° F., pulse 100. For the first time in the right iliac fossa there seemed to be a little swelling; no marked muscle spasm nor tenderness. He did not complain of pain when he voided urine. This rapid and high rise in leucocytes, even without abdominal symptoms, but following abdominal colic, was considered by Dr. Brown, his physician, and Dr. Finney, the consulting surgeon, a sufficient indication for exploration of the abdomen. On opening the abdomen an appendix eight inches in length and extending into the pelvis was found. The appendix was gangrenous for at least two-thirds of its length, and perforated at its tip; no adhesion, and no localization. The pelvis was filled with cloudy fluid; the intestines in the pelvis and right iliac fossa were injected, covered with a little fibrous exudate and cloudy fluid. Cultures were not taken. The patient recovered.

In this case the rise in leucocytes was practically the only indication for operation. There were no previous attacks of appendicitis, and the only clinical manifestations pointing to the appendix was the onset of the abdominal colic associated with nausea and vomiting.

Case II., recently observed by Dr. Mitchell and myself, resembles Dr. Brown's observation in the rapid rise in the leucocytes, but was associated in this instance with distinct abdominal symptoms. The patient, a boy, aged eighteen years, who also filled his stomach one Saturday night with indigestible food, experienced about six hours later intense abdominal colic, which was worse on the right side, followed in four hours by excessive nausea and vomiting. The abdominal colic continued all night and when he voided urine it gave him some pain. He walked to the hospital and was first examined about 1 p. m.; temperature 101° F., leucocytes 13,000. Both recti muscles were held tense, but the muscle rigidity was more marked on the right side. The clinical picture at this time was sufficient, without the leucocyte-count, to make a diagnosis of pelvic appendicitis. His parents were sent for at once, but refused operation until 6 p. m., so that he was not operated on until twenty hours after the beginning of the attack. He was first seen at fourteen hours. In fifteen hours the temperature was 102° F., pulse 112, respiration 28, leucocytes 15,600; in sixteen hours, leucocytes 16,000; in eighteen hours, temperature 104° F., pulse 112, respiration 28, leucocytes 19,000; in twenty hours, temperature 103.4° F., pulse 116, respiration 20, leucocytes 24,800. There had been no nausea or vomiting since the first attack at 1 o'clock the night before. The muscle rigidity and tenderness increased. At the operation a very long appendix was found situated in the pelvis, two-thirds of its distal end being gangrenous; no perforation. The pelvis and the lower portion of the abdominal cavity were filled with cloudy fluid. The intestines in the pelvis were injected. Cultures: Bacilli, but no streptococci. The patient made an uninterrupted recovery.

Case III. was observed in the hospital. The patient, one of the hospital residents, aged twenty-eight years, was taken with abdominal colic and slight diarrhea, a condition not uncommon with the residents during the hot summer months. At the end of sixteen hours the temperature was 101° F., leucocytes 13,000. There was no distinct muscle spasm, but a slight area of tenderness on deep palpation at the outer border of the right rectus muscle; no nausea nor vomiting. Also about this time micturition gave a little pain. At the end of twenty hours the temperature was 101.6° F., leucocytes 23,000. The patient vomited for the first time. The patient was immediately prepared for operation, which was performed twenty-two hours after the beginning of the attack. The temperature just before the operation was 104.2° F., pulse 80, and for the first time during the preparation for operation muscle spasm was noted. At the operation by Prof. Halsted the entire appendix was gangrenous and situated in the pelvis; in its center over one hard concretion the wall was very thin; the pelvis was filled with cloudy fluid containing the bacillus coli communis. The patient recovered.

Acute Appendicitis Distended with Pus; Operation; Recovery.—There are five cases in this group. In all the localized symptoms were sufficient to indicate immediate operation, due, perhaps, to the great tension of the thickened and inflamed appendix, which was distended with pus, but not yet gangrenous. Such a condition is one of great danger, because an appendix distended with purulent material containing, without much

doubt, bacteria of great virulence, might perforate at any moment and discharge into an unprotected peritoneal cavity. Fortunately, in these five cases the operation was performed in time. Two cases were admitted twenty-four hours after the attack. In one the leucocytes were 15,000; in the other, 19,000. The local signs in the patient in whom the leucocyte-count was only 15,000 was less marked, the pus in the appendix was of smaller quantity, the walls of the appendix thickened and under less tension. What would have happened if observed a number of hours longer is difficult to tell. Two cases were admitted forty-eight hours after the beginning of the attack, one with a leucocyte-count of 17,000, with a second count in two hours, just before the operation, of 20,000; the other of 21,000, second count of 28,000. A third case, admitted on the second day, observed five hours showed a rising leucocyte-count from 18,000 to 35,000. In these three cases the clinical picture was a marked one, and the appendix was not much thickened, but was under great tension. In only one of these five cases was there a walling off of the appendix by peritoneal exudate, and it seems fair to infer that a perforation would have been followed by a very virulent and perhaps fatal peritonitis.

Appendicitis; General Peritonitis; Operation.—The correct interpretation of the leucocyte-count in this group of cases is difficult, because in the majority of cases it is hard to estimate the duration of the peritonitis. Observation seems to demonstrate that in the early hours of peritonitis there is a rapid rise in the leucocytes, which, however, soon falls. These cases have been grouped according to the duration of the attack, and not to the approximate duration of the peritonitis. Five cases have been observed, in each of which the beginning of the attack was within forty-eight hours. Three cases recovered—one, operated on sixteen hours after the beginning of the attack, with a leucocytosis of 14,000; one, twenty-four hours, with a leucocytosis of 32,000; and one thirty-six hours, with a leucocytosis of 36,000. In these three cases there were distinct local symptoms, but slight general abdominal symptoms. There was no distention of the intestine; the exudate was chiefly purulent; in the exudate in the general peritoneal cavity only the colon bacilli were found, and no streptococci. In one case, observed forty-eight hours after the beginning of the attack and operated on at once, the leucocyte-count was 25,000. The general abdominal symptoms masked the local symptoms, the patient was very ill, the intestines were distended, streptococci were present, and the patient died. One patient was observed in the hospital. Twenty hours after the beginning of slight abdominal colic and pain, localized in the right iliac fossa, the leucocytes were 8,000; sixteen hours later, or thirty-six hours after the beginning of the attack, the leucocytes were 20,000. Clinically, the patient was not very ill, but on account of the rise of the leucocytes from 8,000 to 20,000, operation was performed. The appendix was perforated and surrounded by a few drams of purulent material. This pus was not walled off by adhesions; the general peritoneum was slightly injected; it appeared as if there was beginning general peritonitis. After the operation the leucocytes continued to rise for twelve hours up to 26,000; then within the next twelve hours fell to 11,000, the patient dying with a clinical picture of peritonitis, which was found at autopsy. In this case streptococci were present. In five cases admitted three days after the onset the symptoms, all showing the clinical picture of peritonitis, the leucocyte-counts in four were 11,000, 11,000, 13,000, and 14,000. These four cases were fatal. The fifth case, whose leucocyte-count was highest (17,000), recovered. The cultures from the peritoneal cavity in this case showed bacillus coli communis.

These counts and others not given in this short paper seem to demonstrate that within forty-eight hours after the beginning of an attack a very high leucocytosis is suggestive—but not at all positive—of beginning peritonitis, and that the leucocyte-count does not help us with regard to prognosis. After the second day, in cases in which the peritonitis has been present longer, we have never observed a recovery with a low leucocyte-count. If the leucocytosis still remains high at this period the prognosis seems better for the ultimate recovery after operation.

Appendicitis; Abscess.—So far, in our observations, we have but two cases of abscess with leucocyte-counts observed within forty-eight hours after the beginning of the attack. In one the leucocytosis was 18,000, and there were distinct local signs, although, on account of the muscle spasm, it was impossible to make out a collection of pus. This patient was operated on twenty-four hours after the beginning of the attack. A small abscess was found about the perforated appendix; the collection of pus was well walled off, but there was beginning peritonitis demonstrated by cloudy sterile fluid and fibrinous exudate on the intestines about the abscess. The patient recovered. The low count—11,000—twenty-four hours after the onset is hard to explain. This patient had marked local signs of inflammation, but no definite tumor. At operation there was evidence that there had been recurrent attacks; the adhesions about the appendix were very firm, but the collection of pus was very small. The patient recovered.

There have been twenty-seven cases of appendicitis with abscess between the second and seventh day. In six cases the leucocyte-counts have been between 11,000 and 12,000; the others higher, the majority between 18,000 and 30,000. The interpretation of the leucocytes at this stage of the disease, especially between the third and seventh day, is a difficult one. A high leucocytosis after the second day of the disease, in the majority of instances, is an indication of gangrene, pus in the appendix, abscess, or peritonitis. A low leucocytosis has been associated with an

acute attack, getting well or completely over, but in a few instances it has been associated with abscess and peritonitis. In these six cases of abscess, with leucocyte-counts between 11,000 and 12,000, four were distinctly getting well, the abscess well walled off; in two the patients were very ill, and there was evidence of beginning peritonitis; one died.

The interpretation of the leucocytosis in the cases of appendicular abscess between one week and one month has already been discussed with the group of cases of chronic and subacute appendicitis.

Conclusions in Regard to the Interpretation of the Leucocyte-Count in Appendicitis.—Although there are exceptions to the rule, a rising leucocytosis is an indication for an operation. In the majority of instances, if the leucocytes reach 18,000 before forty-eight hours, it has been an indication of an advanced pathological lesion. For example, excessive exudate with a diffuse appendicitis, gangrene, or an appendix distended with pus, abscess, or beginning peritonitis. When the leucocytes have been below 18,000, or, when counted a number of times, have fallen in number, the patients have recovered without operation. With a fall in the leucocytes there has been associated a rapid cessation of the local symptoms, or, if operated on, the appendix has been the seat of but slight diffuse inflammation.

Observed later in the attack, especially after the fourth day, a high leucocytosis has usually been associated with localized abscess or beginning peritonitis. It is to be remembered, however, that it is possible to have an abscess with a low leucocyte-count. Out of the fifty-six cases of appendicitis with abscess fourteen have had a leucocyte-count between 6,000 and 12,000; the remainder have been higher, the majority over 20,000; the usual count is between 20,000 and 25,000, one count 30,000, one 60,000.

It is also to be remembered that with peritonitis there may be a very low leucocyte-count. This, so far in our observations, has been associated with an extreme septic condition of the patient, and in every case death has followed. These low leucocyte-counts have been observed in patients admitted to the hospital three days or longer after the beginning of the attack, so it is difficult to ascertain the exact duration of the peritonitis. Observations are sufficient to indicate that in the majority of instances beginning peritonitis is associated with the rise in the leucocytes, which, however, falls as the patient becomes more septic.

In a general way we may feel that a patient admitted with symptoms of peritonitis, with a high leucocyte-count, has better chance for recovery. The leucocyte-count simply indicates, however, a short duration of the peritonitis. The positive prognosis depends more upon the bacteriological findings than upon the leucocytosis. So far in our observations in the four cases which recovered the cultures demonstrated the presence of colon bacilli and other bacilli, but no streptococci.

Before more definite conclusions can be made in regard to the interpretation of leucocytosis in appendicitis we must have more observations, especially observations of cases from the beginning of the attack, where we have a number of counts. There are sufficient observations, however, to make a careful surgeon insist upon a blood-count in every case of acute abdominal lesion, and during the first forty-eight hours to have counts made every four to six hours. *A rapid rise in the leucocytes, especially above 18,000, should, in my opinion, be a sufficient indication for exploration, even in those cases in which the local symptoms are very slight. In the few exceptions in which the local symptoms are sufficiently distinct to indicate an operation a low leucocytosis should not influence as to delay operation.*

Leucocytosis in Intestinal Obstruction.—Dr. Harvey Cushing, I think, was the first in this country to call attention to the leucocytosis associated with intestinal obstruction. I referred to this in *Johns Hopkins Hospital Reports*, Vol. VII., 1898, p. 332, in relation to leucocytosis in strangulated hernia. Since Cushing's first count in August, 1898, the leucocytes have been estimated in almost every case of intestinal obstruction, and in this group of cases the increase in the number of white cells associated even with very slight symptoms of intestinal obstruction has been found to be of great value in the early recognition of the obstruction, frequently before the clinical signs were positive. We have a large group of cases which have demonstrated that within twelve hours after the beginning of the obstruction the leucocyte-count may rise to 20.000. Within the first twelve to twenty-four hours a few observations would demonstrate that if the leucocyte-count rises above 25,000 or 30,000 the probabilities are that one will find gangrene of the obstructed loop or beginning peritonitis. If observed on the second or third day after the beginning of the symptoms it is difficult to make a differential diagnosis with regard to gangrene or peritonitis. After the third day, in cases in which there is no gangrene and no peritonitis, or in which the auto-intoxication is not yet very grave, the leucocytes still remain high—15,000 to 23,000, according to the degree of obstruction—complete, higher; partial, lower. In the presence of gangrene, peritonitis or grave auto-infection, the leucocytes begin to fall. If the patient is admitted after the third or fourth day with a history of intestinal obstruction, and still has a high leucocyte-count, the prognosis is good for operation. If the count is low, and especially if it is below 10,000, the probabilities are that you will find at operation extensive gangrene or peritonitis, or the patient will be so depressed by the auto-intoxication that reaction does not follow relief of the obstruction.

In five cases of strangulated hernia admitted within twelve hours after the rupture had become irreducible the leucocyte-counts were 10,000, 15,000, 18,000, and in two cases 20,000. In all of

these cases the sac contained congested intestine. All the cases recovered after operation. In the one in which the leucocytosis was 20,000 we were able to reduce the rupture with ice bags, the leucocytes falling in three hours to 18,000, and in twenty-four hours to 12,000. In one case the patient left home with an irreducible hernia of some hours' duration, but during the journey of some fourteen hours on a railroad train the rupture became reduced, and on admission the leucocyte-count was but 6,000, which seemed to exclude the possibility of reduction *en bloc* of the rupture. The patient recovered, and some days later was operated on for the reducible hernia.

An observation of my own demonstrates the importance of even a slight rise in the leucocytes as an aid to early recognition of obstruction. The patient had recently been operated on in the hospital for acute appendicitis with abscess, and the wound had been drained. This clinical history, of course, pointed to the possibility of obstruction from adhesions. Some four months after this operation he came to the hospital complaining of abdominal pain of six hours' duration in the region of the scar. There had been no nausea or vomiting, and abdominal examination was negative. The pain, however, was quite severe and was slightly remittent, as if coincident with peristaltic action, although such intestinal movements could not be made out during a long and careful examination. The leucocyte-count in four hours rose from 8,000 to 12,000. There was no fever, and the patient had not taken any food.

In view of the history and rise of the leucocytes an exploratory operation was done. It was found that the omentum and cecum were adherent to the old wound, and to the cecum a knuckle of small intestine was adherent, producing a partial obstruction. The ileum from this point of obstruction for a distance of one foot was collapsed; in the other direction slightly distended. The operation required some time in order to separate all the adhesions and it was fortunate that an early exploration was done, when the patient was in such a good condition that prolonged anesthesia was not contra-indicated.

The Leucocyte-Counts in Cholecystitis.

Acute Cholecystitis.—In seven cases the leucocyte-counts have varied from 20,000 to 26,000. Two cases admitted at the end of the attack, with no symptoms, had leucocyte-counts of 8,000. The rise in the leucocytes associated with symptoms of acute cholecystitis does not seem to demand the same imperative early operation as similar counts associated with symptoms of appendicitis, because here the danger of peritonitis or abscess is a very distant one. We have observed two cases from the very onset in the hospital. One case was of special interest because the cholecystitis occurred during convalescence from typhoid fever.

The patient, a woman, aged forty-nine years, was admitted to the medical side, apparently at about the tenth day of typhoid fever; the leucocyte-count was 6,000. During the forty-two days she had a more or less uninterrupted typical typhoid attack, with no rise in leucocytes. On this day (the forty-second), at 4 o'clock in the morning, the temperature, which had been normal for some days, rose to 101.7° F., and in four hours to 105.2° F. The patient complained of pain in the abdomen and region of the gall-bladder. In this area there was distinct muscle spasm, but, on account of the muscle spasm, no tumor could be made out; respiration 56, pulse 128; the leucocytes had risen to 16,500; in three hours to 22,000. The operation was performed at this time by Cushing. Five hours after the beginning of the attack the gall-bladder contained gall-stones and slightly purulent bile; cultures, the bacilli coli communis.

The second case was rather a feeble man, aged sixty-five years, who on November 3,1899, under ether anesthesia had been operated on for a very huge lipoma of the thigh; following the operation pneumonia associated with a high leucocytosis. For some days the temperature had been normal, with no leucocytosis. On the 15th, in the morning, he complained of abdominal pain in the gall-bladder region, slight nausea, and vomiting. Examination of the abdomen was negative. This attack of pain lasted a few hours and then disappeared; temperature 100° F., pulse 99. During the afternoon he had slight attacks of pain. The next morning, twenty-four after the first gall-bladder colic, associated with pain, the temperature rose to 102° F., in a few hours to 103° F.; leucocytes 13,000. In the gall-bladder area there was distinct tenderness and muscle spasm, and on deep palpation one felt a tumor descending on inspiration. The leucocytes rose from 13,000 to 22,000 in six hours. There were no signs of pneumonia or of malaria; clinically the picture was that of acute cholecystitis. The operation was performed under cocaine anesthesia. The gall-bladder was distended and contained purulent material and a few gall-stones. The cultures showed bacillus coli communis and staphylococcus pyogenes aureus. The patient recovered.

THE RACIAL FACTOR IN HYSTERIA.[1]

BY JULIUS ULLMAN, M.D.,

OF BUFFALO;

INSTRUCTOR OF CLINICAL MEDICINE, UNIVERSITY OF BUFFALO; ATTENDING PHYSICIAN TO THE GERMAN HOSPITAL.

BEFORE discussing the racial factor in hysteria, it is my desire to make a few general remarks concerning hysteria in its broader sense. This disease, ever coming to our attention by the very accuracy with which it was simulate organic nerve diseases, is confined to no latitude, country or people, and if we would use comparative methods of studying it we might find well-authenticated examples of its existence as noted by competent observers in the lower animals.

M. Aruch, an instructor of veterinary surgery at Milan, has reported three interesting cases of

[1] Read before the Medical Section of the Buffalo Academy of Medicine.

hysteria occurring in the dog. The first, an affectionate, intelligent female dog, became moody because a baby was born in the family of the master. There developed dysphagia, polyuria, a capricious humor, an alteration of the voice (aphonia), and progressive paralysis of the legs. There was anesthesia, but no atrophy. The dog was given nux vomica and died in convulsions, but on autopsy no lesion was found in the nerve centers. The second case was that of a dog, eleven years old, domesticated, affectionate and intelligent. He developed convulsions, without the loss of consciousness, occasioned by the master scolding him. Since the first attack he was subject to the same attacks every time the master entered the house. The third case was that of a bull-terrier, two years old, which previously had a paraplegia of which he had been cured for over a year. His mistress procured a companion bitch and afterward the dog lost appetite and gaiety. There developed dysphagia without loss of either bladder or rectum function. The dog was cured by a separation from the companion dog.

Hegier recently has also described very good examples of hysteria in the lower animals. The first case was that of a kitten which was bitten in the back by a dog and at once became paralyzed. When seen by the author five or six weeks later, it moved the forelegs, but dragged the hind ones. The hind legs and the posterior third of the trunk on the ventral dorsal and lateral aspect were completely anesthetic. The tail also was paralyzed. The rectum and the bladder were not affected, however. A servant, desiring to test the fallibility of the saying that a cat possessed nine lives, threw the kitten from the window to the pavement below where it alighted on all four and ran away. It was permanently cured of a paralysis which had lasted two months. The second case was that of a canary, which had been much frightened and shocked by reason of seeing a cat attempting to get into its cage, became aphonic for a number of months, after which it sang again.

Concerning hysteria in the human species, it does not belong to any one time. Although the word "hysteria" does not occur in the Bible, it must certainly have been entertained there, and in the New Testament in which are recorded so many allusions to the miracles performed by the Nazarine, in the light of our present knowledge we believe that hysteria must then have existed. The Greek derivation of the word hysteria, meaning a morbid condition having its seat in the uterus, leads us to the belief that the Greeks must have known much of this affection, and it is a curious fact that for nearly two thousand years the idea was prevalent that the uterus was the seat. This was entertained by Hippocrates, Plato, Galen and even up to Sydenham's and later Charcot's time. It shows that during this time it was most seen in the female and this fact present statistics also verify. It was common in Sydenham's day and in Cromwell's time, but many disorders no longer considered belonging to this disease were mentioned.

There are certain etiologic factors, classified by Gilles de la Tourette, which if allowed to play a rôle will overwhelm the individual and will cause definite symptoms of hysteria to appear in any race be it Caucasian, Mongolian, American, Ethiopian or Malayan.

1. (*a*) Influences of the emotions, including moral passions, such as disappointment, anger; (*b*) influences of education, a higher civilization being conducive to the disease; (*c*) religion, with its furors and frenzies.

2. Traumatism, physical and mental; the traumatic neuroses of the Germans.

3. General diseases, typhoid, pneumonia, scarlatina, tuberculosis, grip, rheumatism, diabetes mellitus, malaria, syphilis and chlorosis.

4. Influence of the sexual organs; as the term implies, the uterus was supposed to be the seat, but, as Charcot later showed, the ovaries seem to be a factor also.

5. Influence of intoxications, lead, alcohol, mercury, sulphur, carbon, and tobacco. The effects of chloroform, ether, morphine, and lastly ptomains.

From the above classification we note that there are two factors, the physical and the psychological. The psychological factor is very important in hysteria, and is in fact dependent upon the physical condition of the individual. As an example we often see hysterical phenomena in those suffering from anemia and auto-intoxication of phthisis, or the physical traumatism in producing the traumatic neuroses of hysteria. Here the physical injury is also accompanied by the psychical insult.

If we are then to consider a racial factor in this disease, we must study the emotions, temperament, surroundings and habits of the race or nation, all of which are referable to their history and civilization.

Hysteria is almost unknown in the savage and barbarous states, but, as Féré says, in the less cultured races where fear, superstition, and a tendency to immitation are seen under their most primitive forms, hysteria is often encountered in epidemics. The savages of our own time, as will be shown later, reproduce the strange scenes which were so frequently seen in Europe during the Middle Ages, namely the dances of Saint Guy in Luxemburg.

In ancient times, and even now among the savage tribes of Africa, if a nation or tribe were conquered, little heed was given to the personal feelings of the subjected. In Rome the prisoners were led captives by the conquering host. They were jeered, scorned, beaten, and led into slavery. Was not this treatment indelibly written upon their higher psychical beings, and are not there many to-day bearing the effects of the ill treatment of their progenitors?

De la Tourette states that all races are subject to the disease, and among the Caucasian race the Israelite gives proportionally the largest number. M. Raymond states that in Warsaw, Poland, mas-

culine and feminine hysteria is common and most frequently encountered among the Israelites. In Europe it is seen as well in Finland as in the islands of the Mediterranean, and among the nations it is seen more in Russia and France than among the Germans and English. The national temperament must, therefore, also be a factor, as well as the social and political conditions.

The Jew in Europe and more especially in Poland and Russia is, as already stated, very liable to hysteria. Let us analyze, if possible, the cause. The Jew has always shown a fertile mentality. He was the writer and transcriber for all times. He translated from Hebrew to Arabic, Greek, and Latin. The most esteemed and most despised of all races, now enjoying a golden era of peace and happiness, then suffering the greatest oppression and persecution, becoming but the chattels of those inferior in intellect and morals. Numerically weak, and isolated, he could not physically take up the gauntlet and strike back the oppressor. Denied the privilege of travel, heavily burdened with taxes, shut up in the ill-ventilated ghettos, excluded from trades and professions, their physical sufferings were great, but their mental sufferings were greater.

The religion of the Jew does not allow his intermarriage with the Gentile. The laws of the Middle Ages did not allow a free interchange of this people, and marriages were not only entered in among the same people, but between near relatives, cousins, nephew and aunt, niece and uncle, etc.; so we have added to other causes the element of consanguineous marriages in production of hysteria. It being easily simulated, hysteria was contagious to the Jew thus restricted. The present generation of Jews, although in some countries, as in America, little persecuted, shows the stigmata of this disease because of the sufferings of their ancestors. It has then been transmitted by heredity in the sense that the child may learn to simulate or imitate the disease from the parent, usually the mother. In European countries, namely, Russo-Poland, Galicia, Roumania, Servia and Bulgaria, where religious tolerance is not enjoyed and where persecution and oppression are common, the Jew is markedly hysterical, and therefore in this country we find hysteria more common in the recently emigrated and especially from those countries where they are most persecuted.

Those who have visited the foreign cities have seen the patriarchal Jew. He is not unknown in our larger cities. Denied the education of the State schools, he has learned from the Rabbi in the dimly lighted and poorly ventilated schoolroom, to interpret the Talmud and mourns and bemoans the destruction of his Jerusalem. Despised, hoping in vain with a sturdy faith, reading of the grandeur of his ancestors, and comparing his present sordid lot have made an impression on him, which if you doubt is only verified by looking at the physiognomy of the Russo-Polish or Galician Jew of to-day—a Semitic feature with a ghetto expression. Prof. Kraus describes a peculiar type of Jew called the "Juif errant," a peculiar, rather hopeless individual who wanders over Europe from neurological clinic to neurological clinic. He often has a grave form of hysteria. In Kraft-Ebing's clinic at Vienna there was a good example of this type of Jew who suffered from astasia-abasia. It would be indeed surprising to us if these unceasing persecutions through periods of centuries should not have had their effect upon this people. It was not of short duration, but a continuous oppression, and in this regard they have suffered mental tortures as no other people in history.

From the German point of view the Latin race is to be regarded as hysterical. The Slav is also considered very hysterical. This is also to be attributed to his condition of serfdom.

Unlike the continued exciting causes which have existed to make hysteria and other nervous diseases frequent among the Israelites, there are conditions which give rise to epidemics of this disorder. The religious furors have affected many races and peoples, but from this the Jew seems to have been free. I allude again to the St. Guy's dance of Luxemburg where the hopping became contagious and the entire community was affected. The same may be said of people less civilized, as shown by the snake dances of the Indians, and the weird dances of the Dervishes.

Witchcraftery is based on superstition and religion. It is based upon a hysterical background and, though fortunately of the past, may still occasionally be seen in the ignorant lower classes and among the savage blacks of Africa. It apparently had its origin in Germany and was of three degrees as follows: (1) Man renounced God and went over to the devil offering an oath of allegiance; this was the method of witches; or (2) the devil took possession of the man during life converting him into one possessed; or (3) man might make a compact of mutual obligation, assigning his soul to the devil.

In 1484 to 1492 there was a wholesale burning of witches, and it continued well until the eighteenth century. Religion, so outrageously abused by the clergy who invariably were inquisitors (and as each inquisitor received a fee for every witch convicted, there is no wonder that there was so many accusations), the trial of witches was carried on against poor cracked-brain creatures (demomaniacs). Many of those supposed to be possessed must certainly have had the stigmata of hysteria, for, as Féré says, undoubtedly hysterical anesthesias held the first place among the marks of the devil.

In England witchcraftery was made a capital offense by statute of Queen Eliazbeth in 1562, and between 1640-1644 there were 3,000 legal executions. When the Puritans came to this country to escape their religious oppressions, they brought with them seeds and culture-ground of a psychological conditions which made the Salem witchcraftery possible.

As atavistic tendencies may slumber for generations only to rise in some future day under some other guise and in more resplendent garb, so we of to-day are not surprised that in that same New England, among the progeny of believers in witchcraft, there should arise from the ashes of a hopeless delusion another manifestation of a religious furor, hysterical in nature, but garbed in more alluring and inviting foliage, but nevertheless just as delusory and subject to a similar end, namely, Christian science.

In studying the black race we must go first to Africa. They are found in a wild and savage state, superstitious, living in tribes, each with its chief. Their religious belief was filled with superstitions; no evil occurred but was the work of some malignant spirit, and because of their belief, like more civilized communities, they devised charms and amulets. Witchcraft was common. Those accused were tortured and often buried alive, or underwent tortures of ordeal from which if they survived they were free from the evil spirit. The natural temperament of the negro is emotional. As Booker Washington aptly remarked, the negro, unlike other emigrants who came to this country, had the advantage of having his passage paid, but the horrors of that frightful journey across the high seas in the slave ships, so admirably described by Spears (*Scribner's Magazine,* Aug. and Sept., Oct., 1900), like the persecution of the Jews must have left indelibly impressed a psychical trauma which has been transmitted to the negro of the slavery days, and in a lesser sense to the generation following the emancipation.

Although Hammond says that hysteria was almost unknown during the slave period, May strongly contradicts this assertion, for he found the most typical cases of hysteria in the negro during religious excitement and these scenes were very common during slave time. The statistics of hysteria among the negro are very difficult to obtain. There can be no doubt that it manifests itself very frequently in the religious excitement attending revival meetings. It is frequent among Hottentot women of the Cape and in Abyssinia. Retourgeon of Brazil has seen it among the children of slaves, and very frequently among half breeds. In hospital work it is occasionally seen among the females. In order to obtain a better knowledge from those who have seen many negroes, I addressed letters of inquiry to Drs. Shadd and Revburn of Washington, Dr. Daniel Williams of Chicago, and Drs. Osler and Thomas of Baltimore, and from answers received from these gentlemen am inclined to believe that the negro is as subject to hysteria as the white man with the same intelligence, education and environment. It is more frequently seen in the mulattoes and also in the descendants of slaves, and less in the illiterate than in the more civilized.

The Indian is supposedly the first inhabitant found here by the settlers. They lived a foraging life, like other primitive and savage people, their beliefs were full of superstition. Many of their superstitious rites were accompanied by undoubted hysterical seizures and manifestations which resembled those of the Middle Ages (St. Guy's dance).

Dr. Charles Buchanan, a physician who has had much experience among the Indians at the Tulalip Indian Agency in the State of Washington, writes me of a quasi-religious, quasi-medical sect or cult of Indians, peculiar to Puget Sound, termed the Shakers, which sect, according to the writer, represents the aboriginal idea of Christian science. Unless through their superstitions they became imbued by a religious furor which became epidemic, few individual cases of hysteria were noted. It would seem that the squaw, who in reality was regarded as the beast of burden, should have become hysterical, but the many cases in which the parturient woman isolated herself a week before and a week after labor, with absolutely no other care or attention than she could bestow upon herself, would certainly disprove the above statement.

We can, therefore, say that individual cases of hysteria could not have been common to the Aborigines until the pioneer settlers, as an advance guard of civilization, commenced the benevolent assimilation and taught the Indian much of the good, but more of the vices of the civilization then extant. We have previously referred to the effects of alcohol as an exciting cause of this disease and see an excellent example of its effects in the deterioration of the American race, physically and morally, so much so that the Government has had to enact laws prohibiting, under a penalty of fine and imprisonment, the sale of any liquors to Indians. As the Indian becomes more and more civilized, he becomes more subject to the disease, for education conduces to a larger occurrence of hysterical manifestations. Dr. A. D. Lake, physician to the Thomas Asylum for Indians, situated in the Cattaraugus Reservation, near Gowanda, N. Y., has observed the Indians of this State for twenty-five years. In his earlier acquaintance with them the disease was unknown, but in the past ten years he has frequently seen both neurasthenia and hysteria. They seem to characterize themselves among the Indian, especially among the girls, in some of whom he has seen convulsions, but often in the manifestation of a moral perversion. No other reason can be assigned for the production of this disease among the Indians than in the change which civilization has procured in their habits and mode of life.

As yet I have not been able to ascertain much concerning the frequency of hysteria among the Chinese, but I do not believe that it is very frequent. Hirsch states that Hindoo women are not much disposed to hysteria, but that the European races living in Hindoostan are as much disposed to the disease as those resident in European countries.

We have, therefore, come to the conclusion that hysteria is seen among all people and in all countries, and the fact that it affects certain races

more often than others, like the Jewish and the Latin races, may be attributed to causes of environment rather than inherent qualities of a race. Heredity plays a rôle only in that the child may learn to imitate certain traits of its parent, the environments and habits remaining the same.

In conclusion we must not forget the hysterical background which may be an epiphenomenon in certain organic diseases, in certain races such as the Slav, Latin, Israelite, nor, on the other hand, to slight the fact that, though symptoms of hysteria are well marked, as they usually are among Russo-Polish women, they may at the same time be suffering from organic disease.

Better therapeutic results will therefore often be obtained among the susceptible races, or those in which hysteria is most common, by drugs, suggestion and mechanical means of treatment directed against a latent hysterical condition in addition to treatment for organic disease if it be present.

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400 Franklin Street.

THE DRUG HABIT; ITS CAUSE AND RESTRICTION.[1]

BY JOSEPH M. AIKIN, M.D.,
OF OMAHA, NEBRASKA.

NEXT to alcohol, as a poison to the nervous system in common use, stands opium with its derivatives, especially morphine. This most useful and very efficient drug for relief from pain is likewise a most fruitful cause of relentless physical and mental suffering.

The effects of the poppy, when introduced into the human body, have been in vogue and utilized for many centuries, but the subcutaneous use of morphine was not known until the middle of the past century and but sparingly used until the great body of physicians now in actual practice began their medical career. The oriental nations used the crude preparations of the poppy plant among all classes as a source of pleasurable excitement. Not however, until recent years has the drug found common favor among Caucasians for its stimulating effects to the intellectual powers. The English and Americans who, prior to the present generation, became devotees to opium were men of letters whose intelligence directed them to its use for the mental stimuli produced. The baneful effects of the opium habit were not pronounced until the process of chemical science gave us the active principle morphine, and resort was made to its use hypodermatically. So widespread is this abuse, especially among the cultured classes, that present conditions are truly alarming.

It was primarily a disease of luxury, for the drug is relatively expensive and, moreover, only those who have the intelligence to know its effects are likely to initiate its use. There are more than one hundred thousand known chronic users of morphine in this country, and of these no one class furnish so large a per cent. as physicians. The rate of increase among its votaries far exceeds our growth in population. Physical and mental degradation from cocaine abuse has developed so rapidly that even some of the large cities are striving to legislate it away from the public.

When chemistry was forced to give up this useful alkaloid for rightful use, intelligent men, many of whom were and are physicians, seized the opportunity, under guise of relief for human suffering, of placing all manner of erythroxylon preparations for promiscuous administrations by the public. The coal-tar preparations in their myriad combinations are habit-forming drugs, causing more baneful than beneficial results. Slaves to the chloral habit are not a few among persons whose vocations cause insomnia, yet whose intelligence and conscientious convictions restrain them from using or administering any extract from the poppy. Another class, esteeming themselves still more conservative, seek the seductive influence of chloroform or ether to ease their neuritic pain and soothe their mental unrest. I name but a few of the common habit-forming drugs, regarding it as presumption on the intelligence of those who compose this Society for me to do more than direct your attention anew to the prevalence and growth of the drug habit and solicit your intelligent cooperation to a rational solution of its cause and restriction.

It is not only true that physicians, more than any other class, are the slaves to narcotics, but it is a fact that those who do nearly all their work in a country practice furnish the larger per centage of morphine users. Modern civilization either produces more and greater aches and pains, or else the present generation is less tolerant. The present requirements of business and social conditions increase the demand and lessen the resisting power against narcotics. An imperfect nervous system, craving stimulation or narcotization, is no less a physical defect that the imperfect eye, yet what person would tolerate for a day even a treatment to the eye, the ultimate results of which he well knows are injurious. The query then is, Why do persons of equal or greater intelligence permit the use of stimulation or sedation to the nervous system, well aware that mental obliquity is added to physical derangement by the continuance of such drugs?

Immediate relief for acute suffering and temporary benefit in chronic painful conditions is a strong argument by the patient, but unless possessed of the intelligence directing him how and what to use for relief, he will not initiate its use. Once instructed in the successful application of a remedy, without the additional information that relief came by the use of a habit-forming drug, invites its repetition. Responsibility is traceable,

[1] Read before the Nebraska State Medical Society.

then, to the intelligence placing the remedy at the disposal of all who apply, if the user has not had equal instruction as to its baneful effects.

The cough syrups and lozenges, catarrh powders and kola drinks when not supplied to *all* by the druggist and soda-fountain vendor can be had at the grocer's, with printed instructions extoling their virtues. Progress in the science and art of compounding drugs enables pharmaceutical houses to exhibit myriads of preparaionts, many of which are very harmful to use. These concerns, founded for purely business ends, use numerous avenues of introduction for the consumption of their products. They are represented by shrewd managers who know well the advantages gained by endorsement from medical men. The general public cannot exercise intelligent discrimination, but, trusting to the "written testimonial of the doctors," they subsequently discover the deception. In this country the ease with which the title "doctor" is acquired and its indiscriminate application greatly lessen the ennobling and beneficial influences rightfully belonging to the thousands of able medical men past and present, whose knowledge, wisdom and integrity, concerning the physical and mental welfare of the human race, surpass every other profession. A more liberal education of the people is a commendable suggestion, but it will serve only as a little greater safeguard against dishonesty among the better educated in science and art. We take high place as one of the learned professions, yet within our ranks is found the largest proportion of chronic drug-users. They are among us, but not of us.

The best evidence possible confirming the high value of our currency is seen in the frequent attempts at counterfeiting. The multiplied pathies, like parasites, are but an excrescence on the great body of honest workers in our profession. It sometimes happens that a person possessing the mental, educational and legal requirements for practising the healing art, becomes infected with parasites of popularity and commerce which completely mask all conscientious appreciation of the patient's subsequent condition. The exceptions verify the rule and we must look for relief to the great body of men within our ranks, whose integrity of character cannot under any circumstances be purchased.

Education is demanded, but character is imperative. Wholesome legislation is good but those in our ranks who rise to the privilege of our opportunities in not only relieving but preventing disease are the men who ennoble our profession, and are infinitely superior as public benefactors to the legislators who enact or the chief executive who endorses class legislation. The intellect may see an evil and its remedy, but without the man of character in control such knowledge is harmful.

Not a few physicians, zealous to accomplish cures, overmedicate, and, finding other patients surfeited by the drug habit withhold the exercise of equal therapeutic measures for their liberation. It sometimes happens, too, that the busy practitioner, wishing to expedite the interview with some undesirable patient, suggests an efficient remedy, but puts no restriction on its continued use. This is more frequent in chronic neuritic patients, not so ill but that they can go about their work and make periodical visits to see the doctor. We are all familiar with chronic drug-users who trace their slavery directly to the advice of some doctor, who we well know is a competent and thoroughly conscientious physician, yet in an unguarded moment gave unwise counsel. I am not, however, unmindful of the fact that such accusations are many times more numerous than the truth warrants; what everybody says is usually not true.

In Colorado the medical profession has shown what a united and continuous effort in politics can do; and I feel sure we will not neglect our privilege in using the ballot advisably in Nebraska should our future suffrage be sought by an aspiring executive who delights in ignoring requests from the best thought in our profession. Wholesome legislation is desirable for the protection of the innocent, but we cannot legislate into man the character that impels him, with or without law, to right actions toward himself or his fellow men. The *man* in medicine, as in every vocation in life, is controlled by motives higher than civil law. Medicine is an exacting and jealous mistress. The public demands much of us for scant reward. If we would rise to the opportunities of our profession for relief of human suffering, we must daily live the life, exhort the precept, and practise the truth, which we as medical men know concerning drugs and their use, for liberating, rather than enslaving human beings.

TWO FATAL CASES IN INFANTS—PEMPHIGUS AND ERYSIPELAS.[1]

BY FRANK S. MEARA, PH.D., M.D.,
OF NEW YORK.

IN the days of good Queen Anne who was herself possessed of no small medical interest, inasmuch as she was the mother of eighteen children and delighted the midwives of her time with regal perquisites, and whose bloated effigy in Westminster Abby bespeaks the strain that was put upon the royal kidneys, Addison wrote in the *Spectator* that the physicians of his time reminded him of Cæsar's description of the British Army, "Some of them slay from chariots and some on foot," and further, "We may lay it down as a maxim that when a nation abounds in physicians it grows thin of people"; and so I fear if Addison were present to-night to hear the title of my paper, he would exclaim with another outburst of classicism, "tempora mutantur, sed medici nunquam."

But long before this caustic wit had launched his shafts of ridicule against our noble body, a

[1] Read before the Quiz Medical Society.

man of far keener perspicuity and higher literary attainment, not without humor, had written in the "Canterbury Tales" these lines:

"And when that Nature will not werke
"Farewell Phisick; go bear the man to kircke,"

and with this kindly explanation of our results, from the father of English verse, I beg your indulgence in the citation of these two cases.

On August 16, 1898, I was called to see a baby, seven months old, whose condition had on the morning of that day first given the parents cause for alarm. The history of the parents was negative; both of them were in excellent health. The only interesting fact about them was that the father was a butcher. There were two other children in the family—a little boy of five and a girl of three, both healthy. The year before both of these children had been under treatment by me for impetigo contagiosa, the disease being especially well developed in the little girl. This had been contracted in a house, a summer cottage, occupied during the preceding year by a Portuguese family, whose children had been afflicted in common with many school children by a skin eruption, known in local parlance as the "Portuguese itch."

The baby was a beautifully healthy specimen of infancy, still on the breast, and had never been ill. For four or five days the child had been ailing, but no history of any significance could be obtained, except that the day before the mother had eaten liberally of lobsters and then partaken of ice-cream, from which delectable ménu she had suffered no bad effects. The child had grown suddenly worse that night and its peculiar appearance had aroused the parents in the early morning to the advisability of medical attendance. The parents were intelligent, but had never had any experience with sickness in children.

On my arrival the appearance of the child was alarming. The baby was stuporous, the eyes fixed and staring, the face livid, the lips cyanotic, the skin cold, the muscles of the hands and mouth twitching. From the feeling of the skin one would never suspect fever and yet the temperature taken at once in the axilla registered 105° F. An examination of the chest revealed a few râles in the right lung.

A certain amount of fever, bacteriologists tell us, is probably a favorable reaction, diminishing the virulence of the toxins that may be circulating in the blood, and 105° F. is not excessive in a child; but to me at that moment it seemed that the vital centers were being overwhelmed and that the fever *per se* was in part responsible for it. At any rate, after a hypodermic of digitalin, gr. $^1/_{1000}$, and a few drops of whisky by the mouth, I put the child into a cold pack until its temperature was 101° F. During the application of the pack I made an abortive attempt to wash out its stomach and gave large saline enemas with but little result, so far as a movement was concerned. This was at 10 A.M. The child on removal from the pack improved at once, a glow coming to the skin, the twitching disappearing, the pulse improving, and it soon sank into a quiet sleep. At 3 P.M., five hours later, the temperature had gone up to 104° F., the lips were again cyanotic and the baby was crying loudly, apparently from pain. Numerous râles were heard in both lungs, due to edema from failing circulation. Again the pack was given with stimulants until the temperature was 100° F. and again the condition markedly improved only to be followed by a gradual rise.

While giving the pack I noticed a vesiculopustular eruption the size of a dime on the left buttock that looked like a patch of impetigo and which at that time was considered to be such. That patch was the beginning of one of the most interesting features of the case.

The next day, inasmuch as the condition of the child seemed dependent on the temperature, I ordered the nurse to give a pack whenever the thermometer registered 104° F. or above. This

day it received but one and with the same satisfactory result.

I will not go over daily details of the treatment, but will say in brief that during the child's illness of thirteen days it received twenty-one packs or sponges, at the intervals and with the results shown by the temperature chart.

The bowels were obstinately constipated and responded only after a liberal administration of calomel and castor oil and the use of suppositories. Fearing the possibility of some disorder of the mother's milk, I put the child on a modified milk mixture of fats, 3½; carbohydrates, 5; proteids, 1¾.

On August 20th the eruption began to force itself on my attention. It had spread from the initial focus over a great part of the buttock. It now showed an intensely reddened area, a little bluish in the center, from which the epidermis peeled off as in a sunburn; there was no thicken-

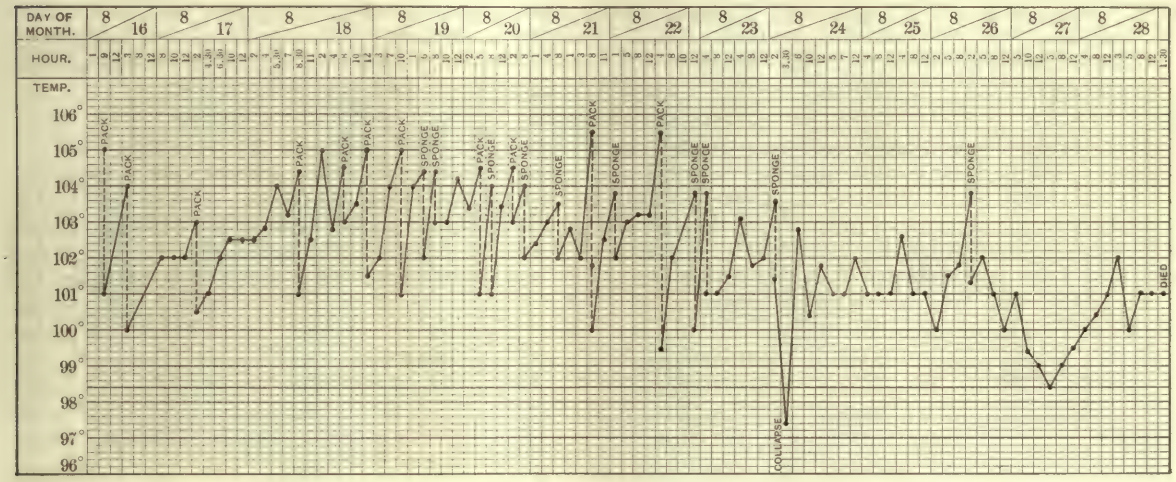
ing of the dermis, no ulceration and no pustulation.

The next morning, the 21st, the temperature rose to 105.4° F. and râles appeared in the chest. On the 22d the eruption appeared on the other buttock and on the vulva, commencing in each place as an isolated spot. Spots apeared on the nose on one ear and on a toe; later spots appeared on an arm, the face, thighs, lumbar region and back of the neck. On the trunk and thighs the spots spread over considerable areas, the epidermis peeling off in great flakes; no true vesicles were seen here, because, I suppose, of the maceration caused by the frequent packs. On the face, arm, and toe the spots were limited, the size of small coins, papular at first, then vesicular, and desiccated under the application of drying powders. The photographs give you some idea of its distribution. The light and shadow effects convey the impression of ulceration, which nowhere occurred.

head. It continually uttered a whine that at times became a sharp cry. It seemed indifferent to handling, but took its food well. The nurse reports six or seven slight convulsions.

The next day the cerebral symptoms abated, though retraction and rigidity persisted. The lungs were clear; the bowels under control. On the 26th there were convulsive movements; the lungs clear, but the breathing feeble.

On the 27th the morning temperature was normal; the stools were horribly offensive and light clay colored; the child evinced some abdominal pain. There was no strabismus nor convulsions, but the left pupil was dilated much more than the right and the left side of the face drooped. The tongue and lips were dry. There were violent coughing spells at times and the nurse reported that she wiped a few flecks of blood from its mouth. On the 28th it suffered a sudden collapse in the morning, but revived on stimulants. The cerebral symptoms were less



Case 1.

On the 22d there began a restless twitching of the head, opening and shutting of the mouth and occasional internal strabismus, the first signs of meningeal involvement. The evening temperature was about 105.6° F. and râles were heard in both chests. On the 23d the stools suddenly became very numerous, but of good color. The nurse reported that about noon the child seemed to go into collapse, but revived on stimulation with whisky. It had several paroxysms of hard coughing, but the lungs were clear and no cerebral symptoms were manifest.

The next morning, at 2 A.M., it had another sinking spell; cerebral symptoms now became marked; the head was drawn back; the muscles of the neck were tense; at times internal strabismus occurred, again internal strabismus on one side and external on the other, or, more properly speaking, conjugate deviation. The arms were rigid at the shoulder, the hands simulating the *"main en griffe,"* thumbs flexed into the palms, elbows flexed and hands raised toward the marked. The next morning at 4:30 the child died.

I was fortunate in obtaining an autopsy on this child, but was not allowed to remove the brain or cord. The baby was still in good flesh, as the photographs show. The heart was normal. The lungs showed areas of congestion along the posterior borders. The stomach was negative, but the small intestine showed patches of congestion, three or four in number and widely separated. The mesenteric vessels near the patches were deeply congested. In the caput coli and the two or three inches of the large intestine adjacent to it there was an area of marked congestion in which were sharply circumscribed petechia or extravasations, varying in size from that of a pin-head to that of a pea. Two or three more such patches occurred at intervals along the large intestine. The liver, spleen and kidneys were negative on gross examination.

Dr. Vanderpoel Adriance kindly examined sections from the lungs and reported scattered

patches of consolidation of the type of bronchopneumonia. As I was far removed from any medical center it was impossible for me to obtain cultures from the lesions and blood before death or from the tissues after death.

The diagnosis, then, was acute pemphigus, acute enterocolitis, bronchopneumonia and acute cerebral meningitis.

A review of one's own cases is a wholesome, but often a mortifying procedure, for it emphasizes our sins of omission as well as commission. I never feel how inadequately I have observed my cases until I review my notes, nor how inadequately I have noted my observations until my attention has been called to the fact by some one else. For example, I read an article the other day in the *American Journal of Medical Sciences* by Da Costa, on "Erythematous and Measly Rashes in Typhoid Fever" that recalled a case I had last summer of an erythema in a typhoid case. I remember, too, of remarking to the nurse that one might think our patient had scarlet fever, and yet on referring to my notes on the case I find it had nowhere been recorded.

Before throwing this case open to discussion by those wise in matters dermatological, I wish to say in defense of my diagnosis that I am aware that the term pemphigus has been loosely used to designate any condition accompanied by bullæ, but that I think this case may be considered as belonging to the more restricted class in which, as Hyde puts it, "the bullæ are either the main feature or one of the main features of the disease." Morover, it seems to me that this is one of that rarer variety, called acute pemphigus.

Payne, who treats of pemphigus in Allbutt's "System," mentions the fact that in nearly all the cases of acute pemphigus that he has collected in which there has been no history of a wound, the patients have been butchers or in some way connected with animals. It is an interesting coincidence that my case should have come under the same category. He believes that there is a specific inoculable disease after the type of pemphigus. In five cases cited by four different observers a diplococcus, which has been named the diplococcus of Demme, was isolated from the bullæ and appeared to be specific. He says the disease has the appearance of a septicemia, beginning with chills and a rigor and a rise of temperature. The eruption begins on one part of the body, but spreads rapidly and may cover nearly the whole surface. As the eruption spreads the general symptoms are aggravated. Cerebral excitement and delirium are often present, and may give place to profound coma. The temperature may rise above 104° F. The attack is often fatal in from one to five weeks.

In the *Deutscher Archiv für klinische Medicin*, March 23, 1899, Köhler cites a case of acute pemphigus in a child of six months, which was characterized by a sudden onset with high fever and the appearance of blisters over the body on the following morning, some of them as large as a quarter. On the following day new crops of blisters appeared from the contents of which were obtained the *staphylococcus pyogenes aureus* and a diplococcus resembling the organism of Niesser (Demme?). The child died with the signs of a severe bronchitis. Two sisters, who had care of the child, were attacked, and four more cases developed among those intimately associated with the family. He speaks of the cases as being characterized by the appearance of blebs on a perfectly sound skin, healing in one part and appearing in another. This was a feature in my own case which I fear I have not sufficiently emphasized. These new eruptions were associated with exacerbations and remissions of fever. The disease lasted from two to four weeks, having the course of an acute exanthem.

Dr. L. Emmett Holt reports in the *New York Medical Journal*, February 3, 1898, a case of acute pemphigus neonatorum proving fatal in a few days, in the vesicles of which was found the *staphylococcus pyogenes aureus*. All the deep organs were intensely congested and some hemorrhagic Peyer's patches and solitary follicles of the colon were found. I wish you to compare the picture given in his article with my photographs; also to recall the condition of the intestinal tract in my case.

Hadley and Bullock of the London Hospital cite a case of a butcher, twenty-three years of age, who sustained a wound in the hand while dressing a sheep. This wound suppurated and three or four days later bullæ appeared on the face, trunk and extremities. Vomiting and severe diarrhea intervened; a septic temperature ensued and death followed in thirteen days. The mesenteric glands were enlarged and the solitary follicles of a greater part of the large intestine and the follicles of the small intestine for about three feet above the ileocecal valve were enlarged and congested. A diplococcus, differing from any well-known pathogenic coccus, was obtained from the vesicles.

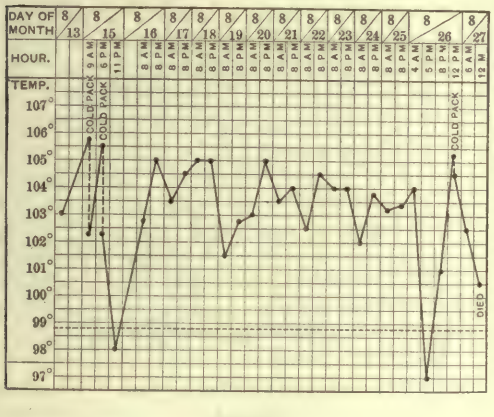
Before considering the probable character and mode of infection in this case, I will invite your attention to the second case, that of erysipelas.

August 13, 1899, I was called to see a baby of three months, previously perfectly healthy and of healthy parentage. The child was on the breast and splendidly nourished. The mother reported that during the preceding twenty-four hours it had been ailing and that that morning it had vomited and shown some twitching of the limbs. The examination was negative. Temperature was 103° F. in the rectum. Deeming it to be but some slight gastro-enteric disturbance so common among infants during the hot season, I ordered it a cathartic and small doses of aconite. The next day it appeared so much better that the parents did not consider it necessary to call me, but on the following morning it was seen to be worse. When I saw the child it was very feverish, the thermometer registering 105.8° F. The stools were green. I washed out the stomach, obtaining only a little mucus

and some curds of milk. The colon was irrigated and two stools better in character followed. These procedures were followed by a cold pack, until the temperature was 102.5° F. The child seemed much more comfortable and quiet after the pack. Castor oil was then ordered to clear out the upper bowel. At 6 P.M. the temperature was again 105.5° F. and again a pack was given until the temperature was below 102.5° F. A little red spot had appeared on the cheek, under the left eye, that looked like a mosquito-bite and did not impress me as being of much consequence, but the next day, the 16th, this little spot had become a brawny, red swelling, and had spread over the bridge of the nose and under the right eye. The evening temperature went up to 105° F.

Feeling satisfied of the true character of the trouble, I ordered an application of a 50 per cent. ichthyol ointment to the inflamed area and for the bowels an intestinal antiseptic (bichloride and salol), as the stools were still unsatisfactory.

The next day the inflammation spread some-



Case 2.

what, but on the whole the child was more comfortable. I ordered the child taken from the breast, the breasts pumped and the child fed with this milk and barley-water, fearing lest the mother might become infected, as she herself had had erysipelas when a child, and I believe it is generally stated that those who have once had erysipelas are rendered more susceptible to it after a brief period of immunity. The next day more of the right cheek was involved, and the skin of the neck invaded. The face now had the typical appearance of a severe erysipelas.

At this time, on the advice of Dr. Alfred Hand, I tried the time-honored treatment of iron. On the 19th the area of inflammation seemed softer and the edge fading. I should add here that the lungs had remained clear and the heart of good force. Moreover, the child was taking its food well.

On the 21st the face was much improved, but a diffuse blush extended down the trunk and arms. This was discouraging, for it showed that I had to do with an erysipelas migrans which is prone to last for some time and in so young an infant must eventually exhaust. W. Watson Cheyne says that erysipelas in infants tends to assume this wandering form.

The next day the face showed still more improvement and the redness was fading from the upper part of the chest and back, but the lower part of the back and arms were now invaded; this was not brawny as on the face.

On the 23d the erythema had spread over the buttocks, while the upper two-thirds of the trunk had become quite clear. Both arms were now involved in their entire extent, the upper clearing as the forearms were invaded.

Perhaps it would be well here to interrupt the description of the course of events to say a word about the character of the inflammation. It was not as severe on the trunk and limbs as on the face. In the former sites there was deep redness, but not much thickening nor edema. The advancing edge was always sharply defined. The redness disappeared momentarily under the pressure of the finger. On the face the inflammation was brawny and edematous, the swelling causing an obliteration of the features and complete closure of the eyes for a considerable time. The swelling involved the ears, the lower half of the forehead, both cheeks, the bridge of the nose, the upper lip and the chin but slightly. This curious exception of a general spread is noted by nearly all writers.

On the 24th the redness had nearly disappeared from the trunk, but had spread down the thighs and from the forearms to the hands.

On the 25th the inflammation had entirely disappeared from the face and trunk and almost entirely from the buttocks; it had quite gone, too, from the thighs and upper arms. Both forearms and hands were now severely inflamed, being swollen and brawny; the hands were puffed, like balls, and very tense. In spite of all this infection the child was still taking its food well, but the iron made it retch and it had to be discontinued.

The next day the inflammation was less on the arms and hands, but had now spread down the legs to the ankles. On this day, too, appeared a slight redness on the right shoulder and chest and patches of erythema appeared on the face and chest, but disappeared again in a short time. The vulva became swollen and edematous. This curious feature of the implication of the same part of the body a second time I find mentioned by Cheyne.

On the 27th the arms, legs, and vulva were better; the hands still swollen. The only parts of the entire body that had not been affected were the feet and scalp. The stools were now foul and frothy. The next morning the child died, thirteen days after the appearance of the skin lesion.

The treatment was the consistent use of ichthyol and the tincture of the chloride of iron, together with care of the bowels, baths for pyrexia and stimulation when needed. It was simply marvel-

ous to me how well the child stood this long siege and the involvement of an area of skin, which if burned to the second degree would have meant death in a short time.

As regards the treatment aimed at the condition itself, once could find justification for his procedures if he were to prescribe with his mental eyes shut, if he were content to take any of the drugs advised, for few conditions outside of diabetes and neuralgia have nurtured a more prolific formulary.

My own procedure was based on that in vogue at the time at the New York Hospital, namely, ichthyol which as a local antiseptic seemed rational, and, a deference to a time-honored empirical procedure, the administration of the tincture of the chloride of iron.

One feels a little timid about pointing the finger of scorn at empiricism, even in these days of therapeutic nihilism, when one is forced to recognize the value of such drugs as iodine, mercury, and arsenic, in the face of a lamentable paucity of facts concerning their *modus operandi.*

Warren of Boston in Dennis' Surgery recommends the use of ichthyol when strong antiseptics are not to be used and such was the case in hand.

Of local treatment, Osler says that ichthyol is at present much used, but perhaps as good an application as any is cold water, which was highly recommended by Hippocrates.

Watson Cheyne advises tepid sponging or cold baths for the hyperpyrexia. He endeavors to give new life to the failing custom of painting the advancing margin with iodine or silver nitrate, explaining that it increases the leucocytes and wards off the spread of the condition. In mild types this accumulation of leucocytes, he says, is characteristic, while ordinarily they offer no efficient barrier. Ziegler puts it nicely when he says, "they seem rather to limp after it."

A suggestion made by Fischer of St. Petersburg, quoted in the *Philadelphia Medical Journal* October 14, 1899, to use compresses of 85- to 95-per-cent. alcohol, in view of the reports of its efficacy in the inflammations caused by carbolic acid and its well-known antiseptic power, may have something in it. I simply mention this as among the newer methods outside the standard text-books.

As for systemic treatment, the use of the tincture of the chloride of iron is mentioned by all authorities and it is extremely interesting to observe the unanimity in their attitude toward it. They observe that which the newspapers of the day have made familiar to us, "a strict neutrality" —no enthusiasm, no condemnation.

There remains one other treatment that appeals to me strongly. In the *Lancet,* February 19, 1898, Magier reports a case of erysipelas, relapsing and developing a grave endocarditis, which was treated with antistreptococcus serum with immediate and satisfactory improvement, resulting in early recovery.

In the *Lancet,* June 24, 1899, Bond reports two cases of facial erysipelas treated successfully with antistreptococcus serum. If the streptococcus is responsible for this condition it certainly seems rational.

Now, is the ubiquitous *streptococcus pyogenes* responsible for erysipelas under the alias of *streptococcus erysipelatus?* It would be hard to determine from the literature.

Bacteriologists say "yea" and "nay." Authorities are always dogmatic, right or wrong. The clinicians in the meantime hesitate. Tyson in his new Practice emphasizes the similarity between the two germs without committing himself. W. Watson Cheyne, who writes the article on erysipelas in Allbutt's System, in discussing the two germs, leans toward the specificity of the *streptococcus erysipelatus.* He thinks the suppurative complications elsewhere are due to a mixed infection. Ziegler does not commit himself as to their identity. Osler speaks of the complications as being due to metastasis, that is, caused by the same germ. He also calls attention to its relation to the ordinary pus germ by the frequency of the small cutaneous abscesses in the face, forehead and scalp.

Regarding the mode of infection, while many writers insist that there is always a break in the continuity of the skin and mucous membrane at or near the site of the initial lesion that affords an antrum for infection, Strümpell says it cannot be denied that there are cases of facial erysipelas in which it is absolutely impossible to make out any cutaneous excoriation and (I emphasize the following) in which there is an initial stage with feverish symptoms preceding the localized trouble in the skin. Such cases suggest the thought that erysipelas is like the acute eruptive diseases and that it is at least possible that infection may take place in some other way than the one mentioned.

So much for the individual cases. I now wish to occupy a moment or two of your time in propounding a few questions which I hope will provoke a fruitful discussion.

What were the germs concerned in producing these two well-recognized pathological entities?

The past few years, and especially that period which for most of us measures our interest in medical matters, may be said to have witnessed the apotheosis of the micro-organism. Every clinical type of disease, that is, every complex of symptoms sufficiently well defined to be recognized as individual, and many more whose variations defie strict differentiation, have been dignified with names and titles, the possession of which, like property, being nine points of the law, they retain with wonderful pertinacity Each disease, so defined, was considered as worthy of its own germ and specificity ran riot as a natural result.

The reaction is already occurring and in a little while we shall in all probability be lending our earnest attention to the iconoclasts.

Those of you who have read or will read Hueppe's little book will appreciate what I mean. It is a plea against specificity in disease and

though extremely radical to those of us who are just feeling ourselves firm in these new beliefs, still is full of valuable suggestions and undoubtedly contains many just criticisms.

Is there a specific germ of erysipelas? Is there a specific germ of pemphigus? You have heard the evidence as quoted in this paper. If there are specific germs in these cases, where did they come from? No case of pemphigus had been known in that locality in the experiences of a practitioner whose professional work in those parts covers thirty-three years. The parents had never seen or heard of a similar case. If it is due to some germ associated with animals, then, of course, the father might have been the source of infection; if not, this specific germ must have led a saprophytic life for countless generations and then at its first introduction into the human body caused this highly virulent intoxication. Is it not strange it should have so rarely found a suitable host?

And the erysipelas? No case had occurred to my knowledge in the town in the past four years; none in that house at any time. What kind of an existence does it lead between its attacks upon the human body?

Now as for the latter, there is sufficient evidence to make it probable that it is identical with the *streptococcus pyogenes,* causing a manifestation under certain conditions of growth and resistance of the tissues which we know as erysipelas. The change in the virulence and morphology of germs under varying conditions of nutrition and environment is too familiar to detail.

The *staphylococcus pyogenes aureus* has again and again been obtained from the vesicles of pemphigus and that, too, in the absence of other germs of etiological significance.

May we not, then, look on these two conditions as due to the same germ or, at least, as due to one of the common pyogenic organisms, producing these apparently varied diseases, simply because of modified metabolism during their saprophytic existence?

Let us take an affirmative answer to this question as a working hypothesis. What was the mode of entrance and what determined the toxicity and nature of lesion provoked? In the case of the erysipelas, it may have been a minute abrasion in the neighborhood of the initial focus. In the pemphigus it may have been by a similar antrum or by way of or, indeed, originating from a patch of impetigo.

One other way has suggested itself to me. Could it have been from the alimentary canal? It has seemed to me that the gastro-intestinal tract has been in some manner responsible for these conditions. Gastro-intestinal disturbance was present in both; in one the autopsy showed a marked enterocolitis. Both began with symptoms of severe toxemia; forty-eight hours before the local lesion was seen at all in the erysipelas and equally long before the local manifestation was of sufficient importance to attract attention in the pemphigus. In both, in other words, the period was like an invasion of an acute exanthem.

Such symptoms as these children displayed in the early hours of their illness I have seen again and again in simple functional derangements of the bowels, which have been speedily terminated by a brisk purge, but in one case, five years ago, ending in death in twenty-four hours. This last case presented the picture of profound poisoning.

I believe the part taken by the bowel in all these cases was to furnish a toxic material that reduced the resistance of the tissues to a degree that afforded a suitable medium for germs that under normal conditions they resist.

This great subject of auto-intoxication, too little appreciated even yet, can hardly be approached here even in the briefest manner, but as the key-note of my theory hinges on it in these cases, I will simply recall to you two broad generalizations. Auto-intoxication may occur from the normal products of digestion when the functional integrity of the epithelium of the alimentary canal is impaired, or, at least, we know that such bodies as albumoses, peptones and some of the crystalline bodies are toxic when injected into the blood and, second, that auto-intoxication may occur from abnormally digested or fermented foodstuffs, producing toxins and ptomains.

So much for the causes that lower the resistance of the tissues; now for the germ. We know that the common pus organisms can be found in the mouth of healthy individuals and be compatible with continued good health; we know, also, that they are rarely absent from the healthy intestine (Welch). Even the bacillus coli communis can take on pathogenic activities under suitable conditions, as its isolated presence in suppurative foci shows. Cheesman and Meltzer's experiments, published in the *Journal of Experimental Medicine,* 1898, show nicely how these germs can cause suppuration in tissues, when injured, that in normal states easily resist them, and how eagerly the staphylococci and streptococci take advantage of such opportunities is shown by their presence in such lesions as dysenteries and appendicitis.

Even as I write the *Lancet* is publishing the Goulstonian lectures, by P. Horton-Smith on the "Typhoid Bacillus and Typhoid Fever," in which is brought out most strongly the offensive alliance of these germs of the intestine and how the virulency of each in the presence of the other is increased, if once the barriers of defense on the part of the organism are let down.

Already this paper has become inordinately long. I hope you see the drift of my ideas—that most varied, common and uncommon manifestations of infection may arise in the body from identical or similar germs, always present, not to be sought after in mysterious places, seizing their opportunity when some slight slip occurs in the body's functions.

If this theory be in any measure true, how important become our efforts at prophylaxis and early consideration of the slight gastro-intestinal disturbances.

400 West End Avenue.

MEDICAL PROGRESS.

Obstruction of Bowels.—Intussusception occurs in almost half of the cases, and of these less than half form a tumor, writes H. C. DALTON (*St. Louis Med. Rev.*, Aug. 10, 1901). In these cases the bowels may continue to move, especially tending to looseness in the ileocecal or colic variety. Speaking broadly, intussusception occurs in early life, volvulus in middle life, gallstones in old age, while bands, adhesions, etc., occur at any age. In intussusception the pain, vomiting and tenesmus are almost constant symptoms, but they may vary greatly in degree. In volvulus a rapid ballooning of the abdomen rapidly follows the onset of pain, vomiting is often absent, the pulse weak and rapid, temperature subnormal. On account of the distention there is dyspnea. In bowel obstruction we must withhold all opiates or purgatives, for the former obscure diagnostic symptoms, and the latter, by adding to the bowel, peristalsis, aggravate the condition, induce vomiting and increase the shock. If hypnotics, warm applications, and high rectal injections do not relieve after a few hours, the wisest procedure is abdominal section.

Alcohol and the Neurons.—Observations along this line are important in that modifications of the central nervous system occasion alterations in respiration, circulation and temperature range. ARMAND KLEEFELD (*Jour. de Physiol. et Path. Générale,* July, 1901) has carried on two series of experimental observations. In the first he trephined the parietal region of a rabbit's skull under antiseptic precautions and without the use of morphine, ether or chloroform. He then closed the wound superficially and after leaving the animal for at rest two or three days injected into the jugular vein 100 c.c. of a 7-per-cent. aqueous alcoholic solution. After two or three minutes he raised a portion of the cerebral cortex. This was fixed in a mixture of potassium bichromate and osmic acid and submitted to the rapid manipulation of Golgi. In the second series he introduced 100 c.c. of a 15-per-cent. alcoholic solution into the stomach of rabbits and made similar examination of the cerebral tissue. Here the pathological changes were increased in amount over those found in the first series. As the result of his work he concludes that the modifications produced by alcohol are not to be considered as a form of degeneration of the nerve-cells, since the alterations appear in a very few minutes after the injection of the alcohol. The moniliform (beaded) state and disappearance of the piriform appendages are seen only in the finest protoplasmic prolongations and far removed from the cell-body. As the dose of alcohol is increased this condition augments and approaches the body of the cell. This appearance is characteristic and not like that produced by chloroform, morphine or chloral hydrate. Certain prolongations remain absolutely normal even after large alcoholic dosage. The axis-cylinder submits to alterations only after very large dosage (100 c.c. of a 25-per-cent. solution). The cell-body does not seem to be in any way changed. This is at variance with the views of Demoor and Stefanowska. These alterations are able to explain all the phenomena of inebriety.

Gastric Analysis.—From experiments on over a hundred dogs, with and without artificial gastritis, M. FRÉMONT (*Bull. Gén. de Thérapeutique,* July 30, 1901) finds that the total chlorine per liter of the gastric juice is practically constant, no matter how much the free or combined acid may be, or whether the acidity changes from cold, the emotions, or disease. This being the case it is of no value to estimate the total chlorine, and it should suffice to find the total acidity, and the organic acidity, the free HCl being the difference between these two. Commenting on this Mathieu claims that the amount of chlorine does vary and that a high figure following a test meal without preceding lavage, indicates a tardy hyperchlorhydria or slow motor activity. He states also that in asthenic gastritis with absence of free hydrochloric acid, the normal chlorine content is very much increased, while hyperchlorhydria without increase of chlorine, and especially with decrease of chlorine, indicate a grave lesion.

Mammary Lymphangitis and Galactophoritis.—Lymphangitis is commonly ushered in by a chill, writes C. H. MAYGRIER (*L'Obstétrique,* July 15, 1901), a rise of temperature, pain and diffuse redness over an area of the breast and enlargement of the axillary lymph-nodes. Galactophoritis presents induration of a mammary lobule, with fever, pain, and the issue of pus from the nipple on pressure. In 2,432 cases lymphangitis occurred usually from the third to the ninth day, and seldom after the twelfth day of the puerperium, while galactophoritis appeared between the sixth and twelfth day, never before the third day, but in a fair number of cases after the twelfth day. When the two occur together the lymphangitis generally precedes. Lymphangitis ends abruptly in one to three days, without abscess formation, and there is rarely a relapse; galactophoritis may be without chill, terminates insidiously, often relapses, and may, though rarely, go on to suppurative mastitis, so that the prognosis is more serious. Lymphangitis does not affect the child, while if the child continues to nurse a galactophoritic breast, it ingests the germs of pus. Prophylactic treatment should consist of careful cleansing of the breast and the hands of the mother or nurse before touching it; then before nursing the nipples and the child's mouth should be cleansed with boric solution. Cracked nipples may be treated with compresses soaked in 20 per cent. alcohol, or a saturated al-

coholic solution of orthoform. When galactophoritis supervenes, the mother should be isolated, the child kept from nursing, and the milk expressed, but if there is both lymphangitis and galactophoritis, expression may favor abscess-formation. Still, expression is the best treatment at our command, and carefully and gently done will meet with good results.

Leucocytosis of Rabies.—Very little investigation has hitherto been made in regard to this subject. The question as to whether there occurs in this disease a quantitative or qualitative modification in the number of leucocytes and, if so, whether it can be utilized for diagnostic purposes, both before and after death, has recently been studied by J. Courmont and C. Lesieur (*Jour. de Physiol et Path. Générale,* July, 1901). Their researches were carried on clinically on the man, cat and dog and experimentally on the guinea-pig, rabbit and dog. Their blood smears were stained with Ehrlich's tri-acid solution, eosine-hematoxylin, and thionine. They find that at times the total number of leucocytes is considerably raised, especially in the terminal stages. Often it is preceded by a hypoleucocytosis, particularly in rabbits. Independent of the degree of total hyperleucocytosis there occurs in man a marked increase in the number of the polynuclearneutrophilics so that they constitute from 84 to 88 per cent of the total number of leucocytes. This increase is established at the time of appearance of the nervous symptoms and augments until death. No abnormal leucocytes or nucleated red blood-cells are present. Good preparations can be made from the pulmonary blood within six hours after death, but this contains a less number of the leucocytes than other blood. They conclude that the total leucocyte-count is not available for diagnostic purposes at any stage of the disease. From the onset of the nervous symptoms the differential count is of great value. An increase in number does not absolutely establish a diagnosis as this is found in other conditions, but a normal or reduced number at this stage absolutely negatives a diagnosis of rabies.

Bacteriology of Influenza.—Although there is described a bacillus of influenza its etiological relation to this disease is not definitely settled. M. E. Sacquepee (*Arch. de Méd. Experimentale,* July, 1901) has investigated an epidemic of influenza from a bacteriological standpoint. During the course of this epidemic four micro-organisms were found predominant at different times. At the beginning this organism was a long bacillus which occurred extra-cellularly and was unidentified. The pneumococcus then became the chief organism found. Later a streptococcus was most abundant and, finally, the influenza bacillus of Pfeiffer was predominant. During all this time the clinical symptoms and the infectiousness of the malady remained the same, yet none of these organisms seemed to be essential to it. From these observations he is inclined to doubt that influenza recognizes a specific primary infectious cause.

Tubercle and Influenza Bacillus.—As phthisis and influenza are so frequently associated A. J. Comstock (*South. California Practitioner,* June, 1901) advises the use of Ziehl's stain for the tubercle bacillus and Loeffler's alkaline methylene blue as a counterstain for the influenza bacillus.

Zomotherapy.—The use of raw meat or its juice in tuberculosis is commented upon by I. Honig (*Klin. therap. Woch.,* July 28, 1901) as follows: In meat juice we possess a preparation which, owing to its ease of manufacture, price and efficacy, is to be preferred to factory products, though a specific action in tuberculosis has not been absolutely proven. It forms, however, a valuable adjuvant to the usual hygienic and dietetic measures.

Cause of Gastric Ulcer.—Some interesting animal experiments have been made by W. V. Yzeren (*Zeitschrift f. klin. Med.,* Vols. 43, Nos. 3 and 4) which throw considerable light upon the pathogeny of gastric ulcer. He found that rabbits in which the vagus nerve is cut below the diaphragm generally remain alive and healthy after the operation, but develop ulcers in the stomach which resemble those in man in that they show no tendency to heal, are generally single and situated in the pyloric region at or near the lesser curvature, and are preceded by necrosis of the mucous membrane. Both the mucous membrane and the musculature in the neighborhood of the ulcer generally remain normal. The cause of the ulcers in rabbits is to be found in a spasm of the pylorus caused by severance of the nerve, and it is more than probable that a similar spasm is the cause in man. That this actually occurs is proven by the fact that the contracted pylorus can sometimes be palpated and that intermittent retention of stomach-contents can be detected by the gastric tube. The actual cause of the spasm in man is less clear, but it may be due to an inherited or acquired irritability of the gastric ganglia, so that errors in diet will readily cause a contraction. In discussing the surgical treatment, the following measures are mentioned: Pyloroplasty, with 7 per cent. mortality and 55 per cent. failures; gastro-enterostomy, with 19-32 per cent. mortality and 20 per cent. failures; and, lastly, pylorectomy, with a mortality of 45 per cent. The least success is thus obtained with the simplest and safest operation. The author has achieved good results and few fatalities in animals by the extramucous splitting of the pylorus, and recommends a trial of this operation in man. It consists in incising the muscle of the entire portio pylorica longitudinally down to the submucous coat without any suturing.

Present Aspect of Antitoxin Treatment of Diphtheria.—The use of antitoxin has reduced the mortality of diphtheria from 65-25 per cent. to 16 per cent., but has proved still more efficient when the injection has been made during the first day. J. D. Steele (*Therapeutic Gazette,* July

15, 1901) states that the greatest benefit the antitoxin has conferred upon the laryngeal cases is the reduction of the number that require operation. Symptoms of heart-weakness, albuminuria and paralysis, are probably considerably more common, however, but this is not to be attributed to the antitoxin, but to the fact that so many more patients survive. As an immunizing agent also, the antitoxin has established its value.

A New Symptom of Pericarditis.—Having himself recovered from an exudative pericarditis, P. PREGOWSKI (*Münch. med. Woch.*, July 30, 1901) describes a peculiar subjective sensation which he has not seen recorded. Whenever he turned over in bed on his right side he had a strange feeling as if at the same time some mass in his chest were rolling from the left side toward the sternum. He thinks that a careful inquiry for this symptom may aid in the diagnosis of pericarditis.

Action of Berberin.—Owing to the warm recommendation which berberin has received in the treatment of the enlarged spleen of chronic malaria and leucemia, M. MOSSE and K. TAUTZ (*Zeitschrift f. klin. Med.*, Vol. 43, Nos. 3 and 4) have investigated its physiological action with the following results: Berberin influences bacteria in that it inhibits their growth and diminishes the products of proteid-decomposition; molds and yeasts are affected in a similar manner and the assimilation and growth of the higher plants are reduced. Toward animals, especially rabbits, mice, chickens and frogs, berberin acts as a strong poison which causes much malaise and emaciation, reduces the reflex irritability and locally damages the nerves. It is also capable of setting up an acute hemorrhagic nephritis and a leucocytosis, but the spleen is not affected in any way, neither macro- nor microscopically. In certain cases in frogs the spinal symptoms of strychnine-poisoning are prevented by preliminary berberin injections. An increase of that property of the blood which leads to decomposition of peroxide of hydrogen was absent, despite the leucocytosis.

Yohimbin as Aphrodisiac.—Some further favorable results of the use of yohimbin as an aphrodisiac are reported by A. LOEWY (*Therapie der Gegenwart*, July, 1901). He found that after castrating dogs, erections set in just as rapidly as with normal animals, so that its action is not dependent upon reflexes set up from the hyperemic testes. It is thus clear that the action of the drug will also be satisfactory in those cases in which impotence has resulted from disease of the testes.

Roentgen Rays in Sarcoma.—A case of recurrent melanosarcoma of the leg, in which amputation was out of the question, was subjected to extirpation by C. BECK (*Münch. med. Woch.*, Aug. 6, 1901) and the raw surface exposed to the Roentgen rays for from ten to forty-five minutes, with the gratifying result that no further recurrence became evident at the site and that several metastases in the neighborhood underwent complete cicatrization. The author considers the action specific and not identical with that of the ordinary cautery. He recommends a trial of this method in cancer of the breast after amputation to destroy all the cells beyond the reach of the knife.

Ligation of Mesenteric Vessels.—Injury to the root of the mesentery is always serious and, unless prompt surgical interference is instituted, generally fatal owing to the large vessels torn through. Even if these are ligated, however, gangrene of the gut is apt to follow. Concerning the latter point, D. WILMS (*Münch. med. Woch.*, Aug. 6, 1901) states from personal observation that ligation of the trunk of the superior mesenteric artery above and behind the pancreas is a dangerous procedure while ligation of the corresponding vein is generally not serious. The latter was found necessary in a case of deep penetrating wound of the abdomen in which perfect recovery followed.

THERAPEUTIC HINTS.

Cold Irrigations in Typhoid.—Recognizing the great value of cold baths in typhoid fever, LEMOINE (*Le Nord Méd.*, Aug. 1, 1901) replaces them where baths are impossible by rectal irrigations with boiled water cooled to 64°-68° F. These he repeats every three hours, or even every two hours in some cases. They are not so effective as the baths, but act more rapidly in cooling the patient, and in addition clean out the intestine. The author uses two liters (2 quarts) for each washing, and stops the current from time to time to allow the intestine to empty itself, lest too much pressure should increase the distention. If the water is too cold it may provoke painful contractions, and even facilitate perforation. By these irrigations the nervous phenomena disappear, delirium is the exception and the tongue remains moist, but the effects are more transient than from Brand's method.

Hysterical Arhythmic Chorea.—The four types of arhythmic chorea are that of Sydenham, chronic progressive chorea attacking the adult and continuous until fatal, the symptomatic choreas including hemichorea, congenital chorea, hemiathetosis and double athetosis, and hysterical chorea. This last is of extremely variable character, simulating the other kinds, and occurring at all ages. Its treatment has been very unsuccessful, but HUYGHE (*Le Nord Méd.*, Aug. 1, 1901) has been able to cure six cases by immobilization. The patient is chloroformed slightly, and the choreic limbs vigorously massaged, so that the patient feels it, and at times even painfully. Thus the choreic has the belief that she is being operated upon. The limbs are then placed in splints and immobilized for five or six days, and generally all choreiform movements cease. If they still persist, the limbs are again immobilized. This is a species of autosuggestion, which has met with some permanent successes.

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PARA-INFECTIOUS AFFECTIONS.

ONE of the most suggestive contributions to medical nomenclature in recent years is the use of the name of a disease as an adjective with the prefix *para* to denote that the symptoms or conditions described are only indirectly related to the disease in question. Fournier made the new term popular by his use of it with regard to the occurrence of sequelæ of syphilis, distant in time from the original attack of lues, yet unmistakably dependent on it for their etiology. The grouping of the parasyphilitic affections by a keen clinical observer has proved of great value in correcting our appreciation of the disease and its liability to produce hitherto unsuspected permanent effects upon the human system. The additional notion that these by-conditions of disease are probably due, not to the specific causative germ, but to toxins in the circulation was an accessory suggestion of far-reaching value.

We are familiar with similar by-conditions of certain other diseases that are of great interest. The now well-recognized special liability of children suffering from measles to contract diphtheria is probably an example of the toxin of the former disease preparing the soil in the human system for the luxuriant growth of the diphtheria bacillus. Diphtheritic paralysis is probably best classified as a paradiphtheritic action. Its occurrence is not separated, as in the case of parasyphylitic nervous ailments, by a long interval of time from the original attack of diphtheria, but it occurs at a time when the active diphtheritic symptoms are past and the best explanation of its etiology seems to be that it is due to the toxin of diphtheria still unneutralized in the circulation, or at least in certain susceptible parts of the system, after the cure of the original focus of the disease.

Recent investigations show that there are probably a series of paradiphtheritic affections that further observation will make easily recognizable as such. Walsh showed before the Philadelphia Pathological Society during the spring that the phagedenic ulcer of the cheek, known as noma, which occurs in the course of measles in run-down patients is almost surely a constant manifestation of the presence of the diphtheria bacillus and its toxins in the neighborhood of the lesion. This explanation of the etiology of noma had been suggested before, but the observed cases were few. The last investigator added eight new observations of noma in which the diphtheria bacillus was demonstrated. This sets all doubt at rest as to the nature of the lesion. Needless to say this confirmation of previous observations suggests a very hopeful therapeutic outlook for an affection that has been hitherto extremely obstinate to treatment.

This seems to be only an example of certain atypical and apparently unconnected complications that will prove to be associated with infectious diseases to which their relationship was unsuspected. Osler has pointed out that arthritis deformans very often follows severe infectious fevers and that there is apparently a special liability for it to occur after influenza. Stuart of Montreal showed that about one-third of the patients affected by this chronic deforming arthritis had a history of previous gonorrhea. It has been shown bacteriologically that the pus of osteomyelitic abscesses is often a pure culture of typhoid bacilli. Such cases of osteomyelitis occur as the result of injury to a bone some seven to ten years after recovery from typhoid fever. The typhoid bacilli seem to have been separated in the bone during the preceding attack of fever and to have acquired virulence for the individual once more after the period of immunity to the disease had passed. The trauma in such cases only furnishes

an opportunity for the walled-off bacilli to affect neighboring tissues by reduction of their resistive vitality.

In a word, there seems to be a number of affections, at present considered independent nosological entities, that are really manifestations of preceding infections. The recognition of the true identity of such symptom-complexes will prove an important step in advance in our knowledge of disease and will usually furnish valuable hints as to the therapeutics of these conditions. Possible connections of preceding infections with tissue changes that produce symptoms later are always to be borne in mind. It is probably that we have scarcely more than begun this interesting chapter of the para-infectious affections.

A GYNECOLOGICAL SCAPEGOAT.

FEW subjects have proved such a fertile field for the exercise of the pen and so profitable financially to the gynecologist and general practitioner as retrodeviations of the uterus. It has become almost axiomatic that in nothing can one so easily obtain the interest and coöperation of a patient as in anything connected with the sexual organs. The idea having taken root that a retrodeviation of the naturally movable uterus is a serious lesion, responsible for certain symptoms, nothing is more natural than that this condition discovered by examination should be made to bear the blame for many a pelvic pain.

The number of women who have been treated for the "misplaced womb" with no cessation of their pains and other symptoms, and are relieved by a course of catharsis, Christian Science, or other distraction from the genital sphere, shows the way in which the uterus has often been made the scapegoat, with complete disregard of constination, hysteria, and other common feminine disorders. That constipation can result mechanically from the pressure of so small a body as the retroflexed uterus seems almost incredible. The urinary symptoms referred to retrodeviation occur quite as frequently in its absence, as a result of inflammations of the urinary tract, urethral prolapse, cystocele, hysteria, etc.

Careful study of the subject cannot but lead to the conclusion that the symptoms attributed to retrodeviation of the uterus are due not to its altered anatomical position but to attendant complications. Neither can one fail to agree with Heinricius (*Archiv für Gynäkologie,* Band 63, Heft 3) that these complications are not caused by the retrodeviation. He holds that the pelvic circulatory stasis to which so much is attributed can result only from acute retroflexion which is rare. The endometritis and subsequent metritis which give rise to so many of the symptoms are often the result of infection, which is not favored by retrodeviation of the uterus. Further, such a displacement of the organ is often unaccompanied by endometritis. Pain in the back may be symptomatic of constipation, enteroptosis, disease of the vertebral column or cord, muscular strain, hysteria, neurasthenia, etc. How frequently are these conditions overlooked in favor of a protracted course of "local treatment!"

The frequency with which marked retrodeviation exists without giving symptoms, the relief of the symptoms which are often attributed to the uterine position by treatment of the complications alone, and the absence of any characteristic symptom or group of symptoms of uncomplicated retrodeviation of the uterus naturally lead to the conclusion that this has been made, often with purely honest motives, the excuse for a course of treatment which may have benefited the patient only after the manner of Christian Science. And after all it is hard not to agree with Mr. Dooley that "Christyan Scientists thinks there'se no such thing as disease, an' doctors think there ain't anything else. An' there-ye-are." Conservatism in at least the operative treatment of retrodeviation of the uterus is the logical conclusion.

SERUM INJECTIONS IN ANEMIC CONDITIONS.

ONE of the most interesting recent contributions to hematology is Hunter's theory of the septic etiology of pernicious anemia. As is now very generally known, he attributes the cause of this hitherto unexplained blood disturbance to an infectious focus somewhere in the system. Usually the infectious material is in the digestive tract and the absorption of toxic substances from it leads to the excessive hemolysis which is such a characteristic feature of pernicious anemia.

In Hunter's experience, the mouth, as a rule, has been the nidus in which infectious microorganisms have found a favorable location under eminently suitable circumstances of warmth, moisture and abundant food material. Carious teeth have seemed especially to be the foci of infection from which by deglutition constant reinoculation of the digestive tract has taken place.

Hunter's theory of the gastro-intestinal capillaries as the seat of abnormal hemolysis in es-

sential anemic conditions is not new. It is to be remembered that Sir Andrew Clark, always insisted on considering constipation as an important etiological factor in the production of the other obscure essential anemia—chlorosis. There is no doubt that the absorption of toxic substances from the contents of a sluggish intestine adds to the seriousness of chlorotic conditions. In these cases it has been considered, however, that the constipation is generally secondary to the blood changes. The lack of proper nutrition so diminishes muscle function that intestinal peristalsis suffers, as well as other muscular actions, in its proper performance. Whether bacterial toxins play an original rôle by causing abnormal hemolysis is at least doubtful. The primary condition in chlorosis seems to be a defective hemogenesis rather than any inordinate blood destruction.

According to Hunter's observations the streptococci have appeared to be the most prominent of the pyogenic micro-organisms in the production of serious blood disturbances. A very interesting and suggestive confirmation of this view of the streptococcic origin of pernicious anemia has come from recent observations in the therapeutics of the disease. In three cases, two of them under Hunter's own care and the third (the first recorded case, however) in other hands, the administration of injections of anti-streptococcus serum has been followed by rapid improvement. This amelioration of symptoms has continued until patients were restored to good health and, so far at least, the improvement has not been followed by the accustomed relapse. In one of the cases the interval of complete absence of symptoms has lasted for more than two years.

Of course these periods of recovery may prove to be only the well-known temporary ameliorations of the disease. Clinically, however, the improvement seems to be due to the use of anti-streptococcus serum. In two of the cases only the serum and certain intestinal antiseptics were administered. The effect of the serum may not be specific; that is, it may not act by directly neutralizing the toxins of streptococci present in the circulation, but only by tonic stimulation of the blood-making organs. More than ten years ago that acute clinician, Quincke, pointed out that even small injections of blood serum seem to bring about improvement in the blood condition of anemic patients, even those suffering from pernicious anemia. This same result has been noted by many observers in obstinate cases of chlorosis. The tendency to urticaria and erythematous eruptions, so common after injections of serum of any kind, shows how sensitive are the walls of the capillaries to action of certain well-differentiated principles that invariably exist in animal serum. Supposing this same effect to be produced on the capillaries of blood-making organs especially rich in their capillary network, the resultant stimulation can be easily understood.

There is no doubt that pernicious anemia is a much more common disease than it was thought to be only a few years ago. The serum method of treatment in hemic conditions is at least suggestive, and the recent reports of success with it should encourage its more extended employment until we are able to decide as to its actual usefulness.

From time to time the newspaper reporter outdoes himself in the effort to make copy. During the past week we have been amused by a number of items. We take pleasure in presenting a few to our readers.

The bacillus is the important item in the first brace; for instance, on the subject of old age, we have the following "made in France:" "Professor Gautier, a member of the Institut de France, has propounded a theory on the subject of perpetual youth. In isolating the bacteria of physical fatigue, he has found, he says, that it is a poison strongly resembling ptomain poison in nature. From this he argues that fatigue can, by the use of disinfectants, be avoided like any other poison, and consequently man need not weaken or age." This is a good enough tale for the *silly season,* which is the London title for this period of the year.

Another choice bit of tommy rot comes to us in a bacillary origin for epilepsy, as follows: "Prof. George H. French of the State Normal University of Carbonville, Ill., announces the discovery of a parasite which he says causes epilepsy. Cases were brought to the Professor's attention from all parts of the United States; he is rapidly developing his treatment, and when completed will give his discovery free to the world. He is known as the author of a work on zoölogy, and is a member of several foreign scientific societies." All hail to the new bacillus!

Mawkish sentimentality pervades a third in which it is reported that a certain Western physician is to give up everything, wife, children,

etc., etc., in order to devote himself to the cure of a case of leprosy.

Why it is that the laity go into hysterics at the mention of this very mildly contagious disease and the newspaper reporter uses up several inches in headlines is beyond the ken of sober-minded physicians who every day of their lives expose themselves to the contagion of diseases infinitely more dangerous than leprosy.

ECHOES AND NEWS.

NEW YORK.

Cremation of Garbage.—The cremation of the garbage of Queens Borough has proven to be a very satisfactory adventure. The crematories located in this borough are four in number and these are able to dispose of about 40,000 loads per year. Experience has shown that these can be operated at less expense than a reduction-plant and they are also much less offensive.

Mosquito Pest.—A systematic plan for the extermination of mosquitoes has been inaugurated by the residents on the north shore of Long Island from Rosyln to Huntington. The immediate work to be undertaken will be in charge of Mr. A. C. Weeks and Professor F. E. Lutz of the Chicago University, who will work in conjunction with Dr. C. B. Davenport of the Cold Spring Biological Institute.

The American Electro-Therapeutic Association.—This Association will hold its eleventh annual convention in Buffalo, on September 24th, 25th and 26th, 1901. Its headquarters will be at Hotel Niagara, and its place of meeting, at the Armory of the 74th Regiment.

PHILADEDPHIA.

Decrease in Hay-Fever.—The usual August outbreak of hay-fever has failed to manifest itself to any appreciable extent in the city thus far this year. The only apparent cause is the heavy rainfall during the month, rain having fallen on twenty of the first twenty-four days of the month. This is believed to have settled the dust and pollen sufficiently to keep in check the disease. If this cause acts until other conditions are more favorable a comparative immunity is looked for.

Appendicitis.—Philadelphia has lately been credited with being the banner city of appendicitis. Perhaps her blue bloods are addicted to the habit, but if the press reports are true the palm should go to Burlington, N. J., with its case of appendicitis in a goat which came to grief by the lodging of a rubber shoe heel in its appendix. Burlington holds the record.

Vital Statistics of Philadelphia.—Census returns show that Philadelphia with a death-rate of 21.2 per 1,000 for 1900 is exceeded by only four cities having a population over 100,000. The decrease from 1890 is also slightly under the average. A former port officer of the Bureau of Health states that the vital statistics of various cities are misleading and that the only intelligent method of making a comparison of the hygienic condition of our great cities is to take the reports of deaths from diseases alone and especially those diseases which are due to insanitary conditions or to ineffective efforts to prevent the spread of contagious diseases.

Smallpox Increasing.—Smallpox has slowly but steadily increased in the city during the summer months when it should be the most easily controlled. There are now eighteen cases in the city, almost entirely among white persons in contrast to the first of the year when colored people were affected. This year's record in Pennsylvania shows 946 cases and 7 deaths, while last year showed but 10 cases and no deaths.

Water Improvement Loan Completed.—The remainer of the loan for improving the water supply of the city, $9,000,000, was paid to the city by a syndicate August 22d. Work on the filtration plants has been temporarily crippled by the discovery of the omission of penalty clauses in the contracts.

Eye Disease from Public Baths.—Numerous cases of eye diseases are being treated at the hospitals as a result of bathing in the public bath-houses. The superintendent of baths points out that the fault is not in bad management but in the system itself. Although great care is taken to change the water in the pools, contamination by great numbers of bathers is inevitable. The remedy is the use of shower baths instead of pools. The public bath at 410 Gaskill Street is built upon this plan and is kept open the entire year. There is a nominal charge of five cents which is expected in time to pay all expenses. Each bather has a separate room, hot and cold water, clean towel and soap. The establishment is considered perfect from a sanitary standpoint.

CHICAGO.

Bacteria Found in Ice.—Bacteria, nitrates and ammonia in quantities forbidden by the laws have been found by City Chemist Bisbee in samples of ice of several companies dealing in the frozen product. Bacilli almost identical with those of typhoid fever were found in one sample, and other bacilli supposed to be characteristic of sewage were discovered in more than one block of ice. Ordinary city water, when exceedingly pure, has not more than one hundred bacilli to the cubic centimeter. Water called "usable" sometimes has as many as fifteen hundred per cubic centimeter, but the city water is never called usable if there are any sewage bacteria found in it. Freezing has a tendency to expel impurities from water, and therefore ice should contain fewer bacteria than the same amount of water. Twelve hun-

dred bacteria to the cubic centimeter are a great many.

Removal of Garbage.—The Nineteenth Ward Improvement Association was in earnest when it met a short time ago and denounced the present methods of leaving the streets uncleaned and the garbage boxes unemptied. The Health Department explains that the cause of the conditions complained of is an insufficiency of municipal funds. Whatever the cause may be, it is evident that difficulty exists. Any citizen may take the South Halsted car, alight near Twelfth Street, and see for himself the filthy streets and the overflowing garbage boxes that are the most salient features of the district. The city has never removed garbage as fast as it accumulated, and now bad has become worse. It is to be hoped that more attention will be given to this matter in the future.

The Tenement-House Question. — The Health Department has assigned territory to volunteer health inspectors, who are working in tenement districts. The specific cause of their appointment is that mothers need instruction in the care of their children. This instruction the volunteer inspectors will give, but they will concern themselves with the general conditions of tenement life and will be expected to make observations on such questions as drainage, ventilation, and crowding. While this work is noble and commendable, it is in its nature transitory and spasmodic. It is an outburst of individual philanthropy, creditable to those who participate in it, and gratifying to the city as a whole, but it makes still more apparent our lack of a permanent commission to which such duties naturally belong. The idea of a permanent tenement commission has been adopted in other cities with notable success. It is with the example of London and of Paris in their minds that the members of the committee of the City Homes Association makes the recommendation that Chicago "place upon a single responsible body the duties of regulating the existing tenements, of controlling the new buildings, and of rationally grouping the population of the city." This seems to be no chimerical scheme. It is in theory reasonable and in practice successful. That conditions in Chicago are so radically different from those of London and of Paris as to make impossible here what was perfectly feasible there seems unlikely. At the present time, both administration and reform are impeded by the way in which responsibility is divided between the Building Department, the State Factory Inspectors, the State Board of Health, the Bureau of Streets and Alleys, and other official bodies. The tenement house has become a question which cannot be treated incidentally. It needs special and detached attention. The New York Tenement Commission is now making plans for the organization of a municipal department which shall have powers even exceeding those of the Paris and London departments that have been mentioned. If Chicago means to concern itself seriously with the tenement house and, therefore, the health of its river ward population, it may have to adopt similar measures. At any rate, these measures deserve consideration.

Passavant Hospital.—Contracts have been let for an addition to the Passavant Memorial Hospital. This addition consists of a five-story stone and brick structure to cost $15,000.

GENERAL.

Northwestern University Medical School.—Dr. A. P. Ohlmacher has been appointed Professor of Pathology in the Northwestern University Medical School (Chicago Medical College). Dr. Ohlmacher has been connected with the Pathological Laboratory of the Ohio Hospital for Epileptics at Gallipolis, Ohio, and will for the time being continue the direction of that Laboratory.

Medical Congress in Egypt.—Invitations have been sent out for an international congress of medicine, to be held under the patronage of the Khedive of Egypt, at Cairo, in December, 1902. It will be the first great gathering of scientific men ever held in an Oriental country. The subjects to be considered more particularly, will be the diseases that come from the East, like cholera and the bubonic plague, as well as forms of liver complaint, dysentery and ophthalmia, prevalent in Eastern lands. Tuberculosis and the effects of climate will also be discussed. Among the medical men who are promoting the Congress are Abbate Pacha, Comanos Pacha, physician to the Khedive, Ibrahim Pacha Hassan, dean of the Cairo Medical School, Mol Eloui Bey, the ophthalmologist, and the chief Egyptian physicians, native and foreign. Dr. Voronoff is Secretary General of the committee in charge of arrangements.

Effect of X-Rays on Insects.—A recent test was made of the effect of X-rays on insects in the following manner: A box was made, half of wood and half of sheet lead. In the wooden half a number of larvæ of flies, bees, beetles, and other insects were placed, and the box was then put in the field of the X-rays. The insect colony at once became greatly excited, and after crawling to and fro, finally emigrated to the leaden half of the box, where the rays would not penetrate. The experiment was repeated many times and always with the same result. A similar experiment was tried with the blind larvæ of a certain species of beetle. A number of them were placed in an open cigar-box, which also contained a metal box with an opening. No sooner were the rays turned on than the insects showed signs of distress. Their uneasiness increased, and in a little while they all sought refuge in the metal box. As the larvæ in the second experiment were entirely sightless, their perception of the

rays must take place through the nerves of the skin.

Prize for Prof. van Gehuchten.—The annual prize of 5,000 francs for the best work in the province of medical research offered by the Belgian Government has been assigned this year to Prof. A. van Gehuchten for his works on the human brain and spinal cord.

Leprosy in Crete.—Dr. Ehlers, the Danish specialist, has been studying leprosy on the island of Crete, and estimates the number of cases at about 600. Prince George has lately directed that the lepers shall hereafter be isolated on the island Spinolonga, after the Hawaiian manner.

Seasickness Congress.—The following editorial note from the *Sun* is of interest: "There are certain maladies which, though not intrinsically funny, are for some occult reason treated almost universally as a very good joke, except by the sufferers. Seasickness, the most familiar of these, is at last to be rescued from contempt, for a congress is about to be held at Ostend, under the patronage of the King of the Belgians, for the purpose of inquiring into its nature and the best means of preventing and curing it. An elaborate exhibition has also been planned to consist of (1) specially constructed craft and apparatus designed to counteract the motion of ordinary vessels; (2) devices intended to check the temporary displacement of the viscera occasioned by such motion; (3) methods of supplying oxygen, ventilating, deodorizing and purifying the air below decks; (4) food, liquid and solid, for seasick patients; (5) drugs and other curative agents; (6) pamphlets and books dealing with the subject in all aspects. A series of experiments will be conducted by the congress on some of the boats that ply about Ostend and neighboring ports, and comparisons made between the several methods of treatment. Thus, one patient will be bound about the abdomen with flannel bandages, another will be provided with a pair of red spectacles, another will be dosed with cocaine, another will be placed in a cot on gimbals, and so forth through the several devices of disputed efficacy. No doubt many new methods of treatment will be proposed. The discovery of a cure is perhaps too much to expect, but we may reasonably hope that the congress, if it does nothing else, will at least do something toward giving seasickness its due. Other forms of shock are not treated as a joke, nor is this particular form either by those who are most familiar with it. The 'bad sailor,' the really bad one, takes it very seriously indeed, so seriously that it will probably be harder to find willing subjects for these experiments than for the experiments with the bacilli of bovine tuberculosis, malaria parasites and other such trifles. There is really no reason in the world, then, why this peculiarly unpleasant nervous disturbance should be laughed at. But public prejudice is so strong that it will never be treated seriously unless the members of the congress put it in a new light. Might they not be induced to attribute it to the mosquito?"

Oldest M.D. Graduate of Yale.—Dr. Chauncey Ayres celebrated last week his ninety-third birthday. Although he is feeble, the doctor is seen in the streets every fair day taking a walk. Dr. Ayres is the oldest living graduate of the Yale Medical School. He was in the class of 1831. Soon after his graduation he went to New York, and was one of the doctors in charge of the cholera hospital there during the epidemic.

New Lamp for Lupus.—A despatch from Copenhagen says that Dr. Sophus Bang, manager of the laboratory belonging to Prof. Finsen, inventor of the light cure for lupus, has constructed a special electric lamp, giving a feeble light, but which is extremely rich in chemical rays. The despatch adds that Dr. Bang used metal instead of carbon poles. The bacteria-killing power of this lamp is ten times as great as that of an ordinary arc lamp, and a lupus patient requiring seventy-five minutes' treatment with the arc lamp will require only from three to five minutes' treatment with the new one, which costs only $15.00.

Roentgen Ray Society.—The preliminary program of this Society offers the following papers:

Tuesday, September 10th, The Diagnostic Value of the Roentgen Rays with Special Reference to Their Application in Medico-Legal Cases, Mihran K. Kassabian, Philadelphia, Pa.; An Examining Frame and "One Minute" Localizer, with Demonstrations, S. H. Monell, New York; How the Induction Static Machine Can Be Excited Without a Separate Charter, John T. Pitkin, Buffalo, N. Y.; The X-Ray in Country Practice, Joseph C. Clark, Olean, N. Y.; What the X-Rays Show in Actinomycosis, G. E. Fosberg, Cedar Rapids, Ia.; X-Ray Work in Great Britain: Results of a Trip, G. P. Girdwood, Montreal, Canada; President's Address, Heber Robarts, St. Louis, Mo.; Researches in the Direction of Obtaining Shadowgraphs of the Muscles and Ligaments of the Body, H. Westbury, Harrison, N. J.; Brief Remarks on the Therapeutic Value of the X-Ray and Suggestion on a Universal Coöperation, Constantin V. S. Boettger, Ottawa, Canada; Some Medico-Legal X-Ray, Illustrated, F. Wesley Sells, Murray, Iowa: Investigation of X-Ray Problems, Virgilio Machado, Lisbon, Portugal; Skiagraphy of the Concretions in Urine, Especially Cystine, R. Jedicka, Chirurgical Clinic, Prague, Bohemia.

Wednesday, September 11th, Why Some Mistakes Are Made in Radiography, J. N. Scott, Kansas City, Mo.; Description of a Simple and Efficient Form of Electrolytic Interruptor, Elmer G. Starr, Buffalo, N. Y.; The Treatment of Cutaneous Cancer by the X-Rays, G. E. Peahler, Philadelphia, Pa.; Use of

the X-Ray as a Therapeutic Agent, Illustrated, H. P. Pratt, Chicago, Ill.; Some Light Rays in Tuberculosis, Dr. J. Mount Bleyer, New York; The X-Ray, an Absolute Necessity in Dental Surgery, Frank Austin Roy, New York; The X-Ray Tube, Emil H. Grubbe, Chicago, Ill.; Development in Crooke's Tubes in 1901, H. Westbury, Harrison, N. J.; X-Ray Machinery, W. C. Fuchs, Chicago, Ill.; The Relative Efficiency of X-Ray Generators, W. A. Price, Cleveland, O.; Position in Skiagraphy, M. E. Parberry, St. Louis, Mo.; Turck's Gyromele and the X-Ray in Diagnosis of the Diseases of the Stomach, Illustrated, J. Rudis-Jicinsky, Cedar Rapids, Ia.

Yellow-Fever Tests in Havana.—Newspaper comment is rife concerning the reports of experiments made in that city. Until Dr. Harvard, a careful and able observer, gives official sanction to these rumors it is unwise to offer any opinions concerning the value of Dr. Caldas' observations, especially since Dr. Harvard has already been reported as saying that the experiments are being carried out in a very loose and unscientific manner.

Obituary.—Dr. Alfred A. Dana of New York, while attempting to cross the Harlem Railroad tracks at Bronxville August 22d, was struck by a local express train and killed.

OBITUARY.

THOMAS MASTERS MARKOE, M.D.

New York has lost another of its illustrious surgeons. Ripe in years and well beloved, Dr. T. M. Markoe died last Tuesday, August 27th, at his summer home in East Hampton, L. I., at the age of eight-two years.

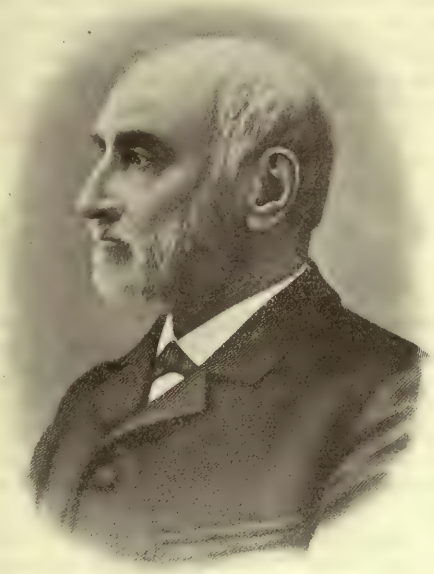
Dr. Markoe retired from active practice several years ago, by reason of advancing years. He was born in Philadelphia in September, 1819, and was graduated from Princeton in 1836, and from the College of Physicians and Surgeons in 1841. In 1839, while still a medical student, he became a junior assistant in the New York Hospital. He had been connected with that hospital ever since, except during a brief period immediately following his graduation.

He became assistant curator in the Pathological Museum in 1842, and lecturer on pathological anatomy. From 1852 to 1892 he was attending surgeon at the New York Hospital, and thereafter consulting surgeon. From 1860 he was a professor in the College of Physicians and Surgeons, up to 1871 being adjunct professor of the principles and practice of surgery; from 1871 to 1879 full professor, and from 1878 to 1888 professor of the principles of surgery.

His success as a practitioner began at an early period of his professional career. He was associated with Dr. Edward Delafield from 1849 to 1865, when Dr. Delafield retired. A partnership with Dr. Francis Delafield, son of his former partner, followed, and later Dr. Markoe's own sons became associated with him.

Before he became a professor at the College of Physicians and Surgeons, Dr. Markoe was for a time professor of anatomy at Castleton Medical College, in Vermont, and afterward professor of pathological anatomy in the University of the City of New York. At various periods he served as attending surgeon to the Nursery and Child's Hospital, the Mount Sinai, Bellevue, and Roosevelt Hospitals, and also as consulting surgeon at Mount Sinai, Woman's, Roosevelt, Orthopœdic, St. Mary's, Vassar, and the Nursery and Child's Hospitals, and to the Northern Dispensary. He was also a member of the staff of consulting physicians and surgeons of the New Dispensary.

Through the war he served as a surgeon in the Union Army, being at first stationed at Fortress Monroe and later at Fredericksburg. After the war he returned to his teaching, retaining from 1860 to 1870 the position of adjunct professor of surgery in the College of Physicians and Surgeons. For the next nine years he served as full professor, and during the rest of his active service he was professor of the principles of surgery at the College of Physicians and Surgeons. In these various capacities he became well known to very many New York physicians of the present day, and a considerable proportion of them had been at one time or another under his personal instruction. His genial personality was much appreciated by the students and his easy flow of language gave an interest to his lectures, which, taken with their practical bearing, always resulted in a lecture-room crowded with enthusiastic listeners. Dr. Markoe's telling descriptions of the processes of repair and his "healthy laudable pus" will always remain as pleasant pictures in the



THOMAS MASTERS MARKOE, M.D.

minds of his many students. Since his retirement in 1890, he has borne the title of emeritus professor of surgery at Columbia.

Dr. Markoe's published works have not been many, but they have been marked by high attributes. His work on Diseases of the Bone was an authority for many years.

Apart from his busy professional life much of his time was given to other interests. He became a trustee of the Astor Library in 1863, remaining as one of its directors until its absorption into the consolidated library plan. From 1891 to 1895 he was president of the Astor Library.

He was a member of the Academy of Medicine, County Medical Society, the Pathological Society, Medical and Surgical Society, Society for the Relief of Widows and Orphans of Medical Men, the Medical Journal Association, and of the Century, University, and Princeton Clubs; the American Museum of Natural History, and the Metropolitan Museum of Art.

Dr. Markoe married in 1850 Miss Charlotte Atwell How. They had five children. Two of the sons, Francis Hartman and James Wright, are physicians.

CORRESPONDENCE.

INSURANCE EXAMINERS' FEES.

To the Editor of the MEDICAL NEWS:

DEAR SIR: As far as I can judge the business manager of at least one of the most prominent life insurance companies of New York looks upon the medical department as little better than an unnecessary expense.

As local examiner I was advised that the fee for examination of risks up to $5,000 would be $3.00; it used to be $5.00. When I read the notice it recalled to my mind a factory where a cheap watchman was kept—the factory was burned down twice at night time. The insurance company that is parsimonious with its examiners should get bad risks in proportion to their parsimoniousness.

I accepted the appointment knowing all too well that the disunited medical men could not fight the Company and that if I did not take the appointment my neighbor would.

The next communication concerned the appointment of the local agent; if I suggested a good agent I was to receive a bonus of $10.00 for each $10,000 of insurance written. Now, this is surely asking me to act as agent and as examiner; if so much insurance is written then a commission is paid to me. I feel that this compromises my freedom as an examiner, to the possible detriment of the Company, but you say in a recent issue some companies are trying to insure everything that has one foot outside the grave.

Whilst attending strictly to my professional duties I unwittingly came within earshot of a meeting of the agents of this insurance company, in conference with officers from the head office. The agents were instructed to tell the doctors that the number of examiners was to be reduced, that the examinations were to be so much more numerous that the doctor would actually get more money under the $3.00 fee than under the $5.00. This is the new argument; we are to do our examinations by wholesale and therefore we must accept a smaller fee. Then the old argument was trotted out, that insurance fees were sure, no bad debts or, to put it plainly, the agents must blow the horn of their company to the tune that the company pays its lawful debts. This is a thing an honest man would not blow about very much. Further, in answer to questions, the head-office man instructed the agents that they must not pay the $2.00 out of their own pockets to the doctors as some had done; they must "support the head office" and the "head office would support them." Then, as a final *coup*, the instructor said in answer to a question that there might be special doctors whose influence must be considered and that in these cases arrangements might be made with the head office so that these especially influential doctors should receive fees at the old rates. Comments are unnecessary.

A. JACK.

July 23, 1901.

COLLECTIVE INVESTIGATION OF THE INFLUENCE OF THE SILVER-NITRATE INJECTIONS ON PHTHISIS.

To the Editor of the MEDICAL NEWS:

DEAR SIR: In 1892 the undersigned began a collective investigation of the action of cold in the treatment of acute pneumonia, and there is reason for believing that this procedure, which resulted in gathering four hundred cases of this disease thus treated with a death-rate of not quite five per cent., was an important factor in calling attention to the utility of that treatment and in introducing it to the profession of this country. That research was based on the conviction that no remedy can be called truly successful until it has passed the exacting crucible of clinical experience, and it is now proposed to apply the same ordeal to the silver-injection treatment of phthisis, which, in a large hospital, dispensary and private practice, reaching over a period of three years, and during which many thousand injections were administered, has given me greater satisfaction than any other method that I have ever employed. In keeping with the above expressed feeling a cordial invitation is herewith extended to those members of the profession who have the inclination and opportunity to investigate this method of treating phthisis and to whom a reprint on the subject, with full information and blanks to report cases, will be cheerfully sent on application.

THOMAS J. MAYS, M.D.

1829 Spruce Street, Philadelphia, Pa., August 15, 1901.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, August 17, 1901.

THE "SILLY SEASON"—THE COMING REVOLUTION IN THE BRITISH MEDICAL ASSOCIATION—DISORDERLY SCENES AT CHELTENHAM—THE REFORM OF THE ARMY MEDICAL SERVICE.

WE HAVE now fairly entered on what journalists call the "silly season," when the gigantic gooseberry excites unholy jealousies in the agricultural mind and the great sea serpent disports himself in the newspapers. Parliament is on the eve of prorogation and physicians follow their patients out of town—to the seaside, to Switzerland and other Continental playgrounds, where they sit beside them at *table d'hôte*, realizing the millennial picture of the wolf lying down with the lamb. Hence the medical papers are duller even than usual—which is saying much. The only question that excites a languid interest in the few who concern themselves about medical politics is the projected reform of the British Medical Association. It is clear that, although the reformers carried all before them at Cheltenham, the scheme is looked upon with growing doubt and misgiving by many who cannot be regarded as obstinately conservative. They are coming to see that it is revolution rather than reform that is proposed, and that not merely the integrity, but the very existence of the Association will be imperiled if an imperfectly thought-out scheme is adopted. They declare that the matter was not properly discussed at Cheltenham, but rushed through by the simple process of muzzling the opposition. I was talking about the meeting a day or two ago to one of our foremost men, whose name is as well known on your side of the Atlantic as on this, and he gave me his impressions with a racy frankness which literary decency forbids me to reproduce. But the gist of his deliverance was that the reforming party were, with the exception of Mr. Horsley and one or two more, professionally as well as personally insignificant and that they only took to agitation because they had no practice to speak of. In fact they are, he said, the analogues of the unemployed *avocats* who have always been so dangerous a factor in French politics, and of the intellectual proletariate whose mischievous unrest in Germany was so much dreaded by Bismarck. Seeing no other chance of notoriety they bombard the editors of the medical journals with letters which when not silly are spiteful, and which if read by the outside public, must give it a very unfavorable opinion of the temper, logic, and even grammar of the medical profession. These effusions come from a small but noisy group whose obscure names have become a terror to quiet folk who seek for scientific edification in the medical journals. The amount of space occupied by the venomous vaporings, the droning and driveling, the braying and blustering of these fussy nobodies, goes far to justify the description of our two big weeklies as the "Great Unread." And it is the spirit of these men that is the active ingredient in the elixir of reform which is to be given to the British Medical Association to strengthen its Constitution! My friend added that of all the men of any importance whom he had met at Cheltenham, not one was in favor of the scheme which they thought, as he did, would probably ruin the Association. When I asked why, having the power to prevent its passing, he and his fellows did not take the trouble to vote, he merely shrugged his shoulders, and said, "How could any self-respecting person have anything to do with such a rabble?" There is the whole situation in a sentence. The great bulk of the members of the Association, including almost all the men whom it could least afford to lose, see clearly that it is threatened with wreck by being given over to the guidance of a few self-seekers and nonentities, but they will not lift a finger to save it!

What manner of men they are into whose hands the management of the British Medical Association is in imminent danger of falling was only too plainly shown at the annual dinner. This is generally a dreary but decorous festivity, but this year it was little better than an orgie. The conduct of many of those present was more like that of rowdy students than of professional men, and the interruptions were so loud and incessant that the speakers could not be heard. Fortunately the President is hard of hearing, and owing to this infirmity he was able to give the rein to his ultra-Ciceronian *copia fandi,* in blissful ignorance of the fact that no one was paying attention to his eloquent and loyal but immensely long orations. Professor George Dock of Michigan, who responded to the toast of "Our Guests," made caustic reference to the interruptions by telling a story of a speaker, who, in a like difficulty, said to one of the noisiest among the audience, "Do you believe in the efficacy of prayer?" To which the reply was, "Yes, I do." The next question was, "Do you believe in regeneration?" Whereto the answer was also in the affirmative. "Then," said the speaker, "the next time you pray, pray that you may be born again and stillborn!" The whole thing was a disgrace to the medical profession, and what made the scandal still greater was the fact that several Members of Parliament, and local magnates, clerical and lay, were present. What they thought of such an exhibition of disorderliness one hardly likes to conjecture.

The scheme of the Secretary of State for the reform of the Army Medical Service which a few weeks ago was submitted to a committee of experts is now ready. It will probably not be made public, however, for some time—possibly not till Parliament meets again in January. At any rate it cannot receive the Royal Sanction till Parliament has had an opportunity of discussing it, and there will be no opportunity till next session. I have heard on excellent authority that the new scheme is of a nature that will make it acceptable to the service and to the profession at large. The pay is to be on a scale that may fairly be called

liberal; the military titles which were wrung out of the War Office with such difficulty will be retained; opportunities will be given to officers of bringing their scientific knowledge up to date and increasing their practical skill; men of special talent will have better chances of doing good work than they get under their present *régime;* and the Director-General of the Service will have a seat on the Army Board when matters connected with the health of the troops are being considered. He will thus no longer be, as he is now, a mere departmental official, but the head of an autonomous branch of the army. His pay will be on a scale corresponding to his rank and official importance.

All this sounds very well, but we must not be too sanguine. The War Office has in past years shown a perfect mastery of the art of keeping the word of promise to the ear and breaking it to the heart. The success of the scheme will depend on the spirit in which it is carried out by the military authorities. But there is ground for hope that a better day is about to dawn for the medical service of the army in the mere fact that Mr. Brodrick, who has hitherto shown himself very decidedly unsympathetic towards the medical officers, seems, contrary to expectation, to have made a serious attempt to meet the demands of the profession. The hour has come and perhaps the man. They have not come too soon, for at the present moment there is not a single candidate for a commission in the Medical Service of the British Army, and I have reason to know that a large number of officers intend to retire as soon as they have served the twenty years needed to qualify for a pension.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

OPHTHALMIA NEONATORUM—ALOPECIA—ANEMIA IN PREGNANCY.

M. PINNARD, at the Académie de Médecine, July 16, 1901, read a paper in reply to a communication from the Minister of the Interior, which requested some action by the Academy as a body relative to adopting a code of instruction for midwives and nurses as to the prophylaxis and care of the various forms of ophthalmia and conjunctivitis to which the newly-born are subject. The paper closed with the following conclusions which were adopted: "For the decrease of the number of the blind the Academy of Medicine commends the following rules to the Government: First, let there be given at each house at the time of childbirth a circular, which shall give warning of the dangers and outcome and of the symptoms and causes of the ophthalmias to which the newly-born child is a victim. Second, measures must be taken to secure prompt announcement of all purulent ophthalmias without any exception whatever. Third, appointment at every public institution, whether purely a clinic or a maternity hospital, of an ophthalmologist, who shall care for those afflicted with the disease and instruct all undergraduate doctors, nurses and attendants in their treatment."

M. HALLOPEAU read a paper on the contagiousness of alopecia in behalf of M. DEZANTIÈRE in which the arguments against this theory were enumerated and then refuted by the well-known clinical features of this disease. There are many well-established small epidemics of alopecia in households, small villages, barracks, etc. Recently in Creusot there appeared a rather remarkable repetition of this feature in a school. Two children had gone to Paris and returned infected. After a time they passed the disease to many of the other scholars, then the teacher caught it and finally children in other schools. It is also easily demonstrable that the disease is parasitic in nature and progresses by auto-inoculation clinically. Although the parasitic character of this affection is admitted by the best authorities the infecting germ is not yet isolated. It is further established that it can not inoculate at a distance, but does so purely by personal contact. It is therefore unnecessary to exclude from schools, stores, etc., all those who have become afflicted, but it is desirable to have them wear some form of headdress which shall protect their associates from contact with them. A further change in their hygienic surroundings is hardly essential.

M. CHARRIN and M. GUILLEMONAT at the Académie des Sciences, July 8 and 15, 1901, read papers on the anemias of gestation, in which the following points were made: In general the blood changes due to pregnancy are too little studied and understood. In the first place, they made researches into the amount of iron. In pregnancy the iron salts of the spleen fall to 0.72 from a normal total of 0.96 and this results probably in favor of the child, because after birth it obtains comparatively little iron in the milk. The total iron salts in the maternal blood also undergoes much decrease; for example, in a normal woman, not pregnant, the total will be about 0.45, in the same woman with child it falls to about 0.38 to 0.34, in an anemic gravid woman the decreased total may range from 0.32 to 0.17. Further the alkalinity of the blood passes the normal of 1.20 to 2.00 by declining to 1.05 to 0.70 in the healthy and to 0.93 or even 0.53 in the anemic pregnant women or in those convalescent from phlegmatia. The mass of lime salts in commonly augmented. That of magnesia, on the contrary, becomes ordinarily much less. Coagulation in glass is as a rule a little more rapid than normally, the ratio being about 7 min. to 8 or 9 min. Urinary acidity rises from 1.20 or 1.45 to 1.57 or 1.95 and the total alkalinity of the saliva declines. In short, although the cellular elements show no important and constant changes the soluble parts of the blood indicate the common lien upon the system, and the waste of gestation. On the one hand, the loss in iron shows a certain degree of depreciation or disassimilation, and, on the other hand, it is found that after various changes there is during pregnancy a lessening of

the alterations in the blood which tend to the benefit of the child without much loss to the mother.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held May 16, 1901.

The President, Robert F. Weir, M.D., in the Chair.

The proceedings of the evening were opened by a memorial address on the late Dr. S. A. Purple, formerly President of the Academy of Medicine, delivered by Dr. Stephen Smith, his longtime friend and associate.

A Self-Made Man.—Dr. Purple, who afterward became one of the most prominent members of the New York Academy of Medicine, was born in 1822 of poor parents. He had to earn his own living besides helping pay off some debt contracted while the children of the family were growing up. At the age of twenty he entered Geneva Medical College and graduated after two years. For several years before his entrance into the medical school he had been reading medicine, keeping the book open in front of him while working at his trade. In order to pay the expenses of his medical education he worked on a farm for five months of each year and thus secured enough to support himself under the practice of the most rigid economy during the school term. He was graduated at the University of the City of New York and, by the advice of a clerical friend from his native town who had a charge in New York City, resolved to take up practice in the city.

Early Struggles.—When Dr. Purple started for New York to begin his practice he had only $25 in his pocket. In order to save expense he worked part of his way to the city on a canal boat, but even by so doing, when he reached town, he had only $17.50 as his capital. Of the struggle of his early years, he said very little. To friends he confessed that for the first three years he did not make his living expenses. He was able, however, in his fifth year to pay off most of the debts thus incurred. He became first an assistant editor of the *New York Journal of Medicine* and afterwards assumed editorial charge of the *Journal*. During his years of editorship, he contributed a number of articles himself and the high character of the contributions to the *Journal* show how wide was his acquaintance with medical men at the time, and how good his taste in selecting material.

Bibliophilic Work.—While in editorial charge of the *Journal* he became taken with the idea of making a collection of the serial medical literature of America. Incidentally he became interested in books on American history and his collection on this subject is extremely valuable and well known. He had a complete set of all the American medical periodicals that have ever been issued and made a present of them to the New York Academy of Medicine. This contribution laid the important foundation-stone of the present library of the Academy. His interest in the academy included every department of its work, however, and it is through his influence with Dr. Hosack that the Hosack contribution of $75,000 to the building fund of the Academy of Medicine was made. Dr. Hosack himself was deeply at enmity with a number of medical officials prominent in the Academy councils. When Dr. Purple first sugested the contribution Dr. Hosack would not listen to it. The unselfish spirit of the suggestion and Dr. Purple's friendliness for several years afterward won over Dr. Hosack to his purpose. After Dr Hosack's death, Mrs. Hosack offered to send her check for the amount, saying that it had been her husband's expressed wish that the sum should be given. While there was already a considerable sum in the building fund before the Hosack contribution, it was this magnificent donation that made the immediate erection of the Academy possible.

Portrait in Oils and Tablet.—A portrait of Dr. Purple, life size, in oil, was then unveiled. Dr. Smith presented it in the name of Dr. Purple's brother's family to the Academy as a souvenir of its dead President. The memorial tablet to Dr. Purple was erected at the entrance to the library. It contains the following inscription: "Samuel Smith Purple, M.D., Born June 24, 1822; Died September 29, 1900; Founder of the Library of the New York Academy of Medicine to Which He Gave Large and Valuable Contributions; A President of the Academy and an Earnest and Successful Worker in Its Interests; This Tablet Is Erected to Commemorate His Many Virtues and Rare Usefulness."

Sitophobia of Enteric Origin.—Dr. Max Einhorn read a paper on this subject. He said that while sitophobia of gastric origin is not uncommon, the fear of food because of intestinal distress after eating, though rare, is not infrequently seen. The word sitophobia has been taken already as the name of the condition in which patients refuse food when suffering from melancholia. This is really, however, not fear of food, but food refusal with suicidal purposes. It can be readily understood how sitophobia may endanger life when carried to excess.

Symptomatology.—A recent case in Dr. Einhorn's practice illustrates very well the symptomatology and general nosology of the disease. The patient suffered considerably from headache and obstinate constipation. He was a man of about forty years of age and the constipated habit had lasted for many years. When first seen about three years ago, cal-

cined magnesia was prescribed and large olive-oil injections advised. He became better under this treatment, but then neglected the diet regulations given him, failed to take the treatment regularly and became worse. He went to another physician, who advised large enemata of water. After a while these failed to help him and then he began to use various purgatives, his constipation constantly growing worse. It became so bad that he had a passage only every seven to ten days. This annoyed him very much and fearful lest the accumulation of material should do harm, he ate less and less. As a result extreme emaciation set in. He lost about forty-five pounds and when stripped every bone in his body could be counted. Sugar and albuminous materials especially seemed to cause him discomfort and serious inanition had resulted from the discontinuance of their use.

Special Therapeutics.—He was advised to use an injection of a pint of olive oil every day and sufficient calcined magnesia to secure a movement of the bowels. The amount of food that he should take was prescribed and his diet was gradually increased. Plain food was insisted on, but he was not allowed to refuse food because of his discomfort. Under this régime he increased nearly a pound a day for over a month and has now gained 32 pounds in all. His general condition is much improved, and his sitophobia has decreased with his increase in weight and the disappearance of his emaciation.

Diarrheic Sitophobia.—Not all the patients who refuse food because of the fear that it will do them harm, suffer from constipation. In a recent case the patient was suffering from diarrhea. The taking of food seemed to give rise to liquid stools in which undigested food material was passed. Gradually the patient limited the amount of food taken so much that he lost weight and his weak anemic condition still further increased the tendency to diarrhea. As a result of sitophobia the first prominent symptom is always anemia. As a result of this, insomnia is apt to develop; there may be even slight febrile movements and there will be usually a small amount of albumin in the urine. The pallor and dizziness with albumin may seem to indicate the existence of nephritis. The best proof that there is no nephritis in the case will come when as a result of increase in the amount of food consumed, the albumin disappears.

Treatment.—The most important indications for the treatment of sitophobia are the persuasion of the patient to take more food. This will sometimes require considerable argument and representation of the necessity of more food than is being taken. When, as is usually the case, there is considerable loss of nervous tone, strychnine is indicated. Where anemia is an important feature of the case, iron will be needed. In cases where constipation exists, the tendency of iron to increase the constipation must not be forgotten and the bowels must be carefully regulated. Drugs alone without regulation of the patient's diet will not bring about improvement.

Syphilis of the Liver.—Dr. Einhorn said that syphilis of the liver is well known and has been well described. It has not been treated from a clinical standpoint, however, quite as much as its importance justifies. The description of it has been left too much to the pathologists and its treatment and symptomatology have been considered rather by the syphilographer. Long ago Ricord described gumma of the liver and pointed out the conditions that develop in this important organ as a consequence of syphilitic affection. To Virchow, however, we owe the scientific pathology of syphilis of the liver and after his descriptions the clinicians established the nosology of the diease. Syphilitic enlargements of the liver occur from three and one-half months to twenty-five years after infection. The enlargement is usually irregular and nodular in character, but this symptom is not invariable. At times considerable tenderness in the hepatic region is a prominent symptom. Spontaneous pain is usually not noted. As a result of interference with the portal circulation, ascites is apt to become a prominent feature of the disease. As a consequence of the enlargement of the liver, anasarca may be a symptom. Syphilis is much rarer in America than in other countries and syphilitic enlargement of the liver is consequently rather rare. A number of cases of the disease have, however, been reported in America and have been carefully studied.

Classification.—Syphilitic disease of the liver may be classified under three groups, namely, gumma, syphilitic cirrhosis, and either of these with icterus and the changes induced by the icteric condition. The history of a characteristic case was given. The patient was a man, thirty-four years of age, who had his chancre six years before. He remained well and strong notwithstanding the syphilis, but began to complain of some digestive symptoms several years ago. The first noteworthy symptom was belching of gas; then he had severe pains after eating and became nervous and restless and sleepless at night. He lost 24 pounds. Physical examination showed the presence of distinct resistance in the gastric region. A tumor-like area about the diameter of a silver dollar could be felt in the pyloric region. The gastric chyme was examined because there was a suspicion of the presence of cancer. Nothing to confirm this suspicion was found. Hydrochloric acid was slightly lessened in amount, but there was no lactic acid present.

Treatment.—As there was syphilis in the history, the patient was given mercury rather freely and soon began to improve. After about

three months practically all of his symptoms had disappeared. The patient was warned that a relapse of his condition might easily occur and was told not to neglect the preliminary symptoms of the recrudescence of the liver affection. Notwithstanding this warning, the liver was allowed to become seriously affected. After about two years he came back because of almost unbearable tension in the abdomen. On the right side an immense tumor of the liver could be outlined, on which a number of coarse nodules, the size of a walnut, could be felt. One of the large knobs was the size of an apple. The lower level of the liver dulness extended from the umbilicus around into the flank. The upper border of the liver dulness was about normal. The spleen was not much enlarged. Inunctions of mercury were tried and iodide of potassium was freely used. Under this treatment the diminution in the size of the liver was constant and marked. This diminution could be followed from week to week. In between six and seven weeks the liver had returned to its normal size.

Symptomatology.—Usually the initial symptoms are pains in the right hypochondrium and at times in the epigastrium. These pains are sometimes so severe and localized that because of their position they are taken for gallstone colic. The painful symptoms have usually been preceded by digestive symptoms for some time. Loss of appetite is often a marked early feature of the disease. Constipation occurs quite commonly and diarrhea is a rarer symptom of the disease. Loss of weight nearly always occurs, but it is not so marked as during the growth of neoplasms. The other signs characteristic of cancer, cachexia, weakness, bad color, with anemia, are not so prominent in syphilis. Icterus occurs quite commonly. It may be one of the first symptoms of the disease and then may disappear completely, or may persist until the syphilitic condition is entirely cured, or the patient succumbs. When it occurs at the beginning of the affection and disappears later, the jaundice is due to a catarrhal icterus. When the jaundice is persistent, it is due to mechanical interference. In all cases enlargement of the liver occurs. When there are gummata, these occur as nodules. In syphilitic cirrhosis of the liver there is hypertrophy of the whole organ with overgrowth of connective tissue between the lobules of the liver and the organ becomes more or less regularly enlarged and quite hard. Enlargements of the left lobe of the liver are said to be more suspicious of syphilis than enlargements in the rest of the organ, but this symptom is not of much differential value.

Differential Diagnosis.—Where a tumor of the liver can be demonstrated, even if there is no history of syphilis, antisyphilitic treatment should be tried. The therapeutic test is one of the best pathognomonic differentials that we have. Where simple enlarged liver exists, it is extremely difficult to differentiate it from syphilitic hepatitis. Syphilitic enlargement of the liver also resembles very closely hypertrophic cirrhosis. This latter disease is apt to improve, at least at first, under the administration of iodide of potash, so that the iodide test alone does not determine the presence of syphilis. The hardness of the liver does not enable one to distinguish cancer from syphilis, though usually malignant disease is harder to the touch than are the syphilitic tumors. Some syphilitic liver conditions give, however, very unyielding induration. Examination of the blood may prove of some assistance. There is an increase of eosinophiles in the blood during syphilitic invasions of viscera, according to Neisser.

Alcoholic Cirrhosis.—With regard to alcoholic cirrhosis, drunkard's liver, the history must be the main diagnostic aid. In alcoholic cirrhosis the spleen usually enlarges later than it does in syphilitic cirrhosis. With regard to syphilitic hepatitis it must be remembered that sometimes iodide of potash does no good, because the connective tissue in the liver has become fully formed and no longer yields to the absorbent effect of the iodide.

Prognosis of Syphilitic Liver.—The prognosis of the disease is good if the diagnosis is made reasonably early. The presence of ascites soon makes the prognosis unfavorable. The larger the amount of fluid in the abdomen and the longer it is allowed to remain there, the more harm is done. The increase in intra-abdominal pressure very soon interferes with the functions of the organs and produces lasting pathological changes in them. Dr. Einhorn has had one death out of his ten cases and even this improved under treatment. All the others are living and in reasonably good health.

Treatment.—The drug treatment consists of the use of a mixture of potassium iodide and sodium iodide, two to four drams a day at the beginning and gradually increased to five to six drams a day. A combination of these two salts is better than either one of them and it gives much better satisfaction than does the potassium iodide alone. The antiluetic treatment should be continued for from three to four months. Where anemia exists arsenic should be used and also iron. A combination of arsenic and ferric iodide is a very efficient remedy. For ascites, puncture should be made as soon as the pressure gives serious inconvenience. Delay in evacuating the serious fluid in the abdomen is always productive of at least functional visceral mischief. Milk and eggs should be the main part of the diet and bland foods should be chosen with a great deal of care.

Mucous Colitis.—Dr. Henry Koplik read a paper on the intestinal intoxication occurring in mucous colitis in young children. He said that in many cases the prominent symptom of

mucous colitis is an auto-intoxication. There is evidently incomplete digestion followed by the absorption of poisonous peptones. As a rule these poisonous peptones are neutralized in the intestinal walls or in the liver. When this neutralization fails to take place, the work of elimination is thrown upon the kidneys and the indication of this is the presence of acetonuria and diaceturia. As the result of the irritation of these substances, the kidneys fail to act properly and certain uremic symptoms come to complicate the disease.

Symptomatology.—One of the prominent symptoms of the disease is vertigo. Occasionally there is a certain amount of delirium. Stupor is not uncommon and headache is frequently complained of. The resistive vitality of the heart and lungs is lowered, these organs are apt to suffer in their function and the general nutrition is disturbed. A special form of the mucous colitis occurs in children at the age of from three to six years. As a rule, they have been constipated from infancy, or at least have had long constipated intervals. During these intervals some food is apt to disagree with them, particularly, for instance, unboiled milk or vegetables and then they begin to show signs of nutritional disturbance. They become anemic, slow to understand things, peevish and irritable. When the interval passes, they become bright and good and healthy once more. It is evident that the changes of disposition are associated with intestinal toxemia. Such cases may easily develop sudden symptoms, more or less alarming in character.

Mucous Evacuations.—Such children usually have a certain amount of mucous colitis the main symptom of which is the presence of mucus in their stools. Eustace Smith said that we do not as yet understand why these mucous stools occur, nor the true source of the mucus. Our knowledge has not become more definite since he wrote. A typical case makes the condition more easy to understand. The patient was a child of six years of age, bottle fed, and had suffered from a slight amount of rickets. During infancy there had been a severe attack of acute gastro-enteritis and this had been followed by subacute gastro-enteric inflammatory conditions. During an attack of grip, pericarditis had set in and recovery from it had been slow. In spite of the free use of cascara, scybala were always passed in stools and constipation continued to exist.

The Attack.—Before one of the exacerbations of the disease the child became pale and listless and rings were noted under the eyes. There was some vertigo and disinclination to move around much. Nausea existed for some time and when water was asked for, vomiting occurred. The vomit consisted first of food and then of glairy mucus. The vomiting occurred even when lying down and even albumin water was not retained. The pulse was full and bounding, rather high pressure, and 120 to 140. Some albumin was found in the urine and small hyaline casts. The condition stimulated uremia somewhat, but the kidney disturbance did not seem to be the real basis of the pathological condition. There is often some pain complained of in the abdomen, but there is no tenderness on pressure. In one case in Dr. Koplik's recent experience the presence of the pain aroused a suspicion of appendicitis. The differential diagnosis was not, however, very difficult owing to the absence of any localized tenderness.

Toxemic Symptoms.—The patients are pale and anxious looking, with something of the collapsed look of those who have taken poison. Professor Senator has noticed, on several occasions, the odor of hydrogen disulphide on the breath. In one case in Dr. Koplik's practice, the odor of the breath was the same as that of the flatus. In this case the father was a physician and the phenomenon was noticed a number of times. This odor is not, however, invariable and a peculiar mawkish odor may be noticed. Once in Dr. Koplik's recent experience the breath had a sweetish smell. At times, at the end of one of the attacks, the stools may contain mucous casts of the bowel. There is always an abundance of mucus in the stools toward the end of an attack.

Apparent Recovery.—At times there is apparently complete recovery from the condition. The patient becomes bright, regains strength and weight and only the constipation remains as a reminder that the severer condition will probably return. The acute exacerbations really seem to be crises represented by a culmination of the effects of the accumulated mucus and other intestinal material. There is never any anasarca, so that despite the urinary symptoms and the bounding pulse, there is no true uremia. There is an increased elimination of ammoniacal products through the urine.

Treatment.—The best remedy is absolute rest. The giving of all food by the mouth is stopped and exclusive rectal feeding must be resorted to. Somatose injections at a temperature of 110° F. every two hours are valuable. Strychnine must be used freely, the recumbent position must be maintained until the patient is strong again. The use of cream and fat is apt to do harm. Alarming symptoms may follow nausea that absolutely forbids the taking of food for a long time; the diet must then be limited to skim milk and to vegetables that leave little residue. As a rule, bake potatoes and purée of peas are well borne. If spinach is eaten it is often found in the stools.

Prophylaxis.—The sign that an attack of the severe condition is supervening is increased pallor with restlessness and coated tongue, capricious appetite and increase of the constipation. The free use of Carlsbad salts may forestall an attack and, by relieving the bowel of its accumulation of material and draining the blood of some of its serum, and so lessening its index of toxicity, may prevent severer symptoms.

Types of Intestinal Toxemia.—In the discussion Dr. Jacobi said that the amount of urea

excreted and the absence of edema shows that there is no true kidney disease underlying the symptoms. Albumin is found in the urine whenever there is intestinal intoxication. There are two forms of gastro-intestinal toxemia. The first is due to the absorption of noxious material in the upper part of the digestive tract, the stomach and small intestines. The other is due to the absorption of toxins in the colon. Mucous colitis and its attendant train of symptoms are evidently due to the putrefaction of fat and albumin in the colon. The change in the albuminous products gives rise to the ammoniacal material in the urine. As a rule, too much fat is crowded into children. Nurslings have ten per cent. of fat in their feces. Human fat and cow's fat are very different, so that the infant is able to dispose of less of the cow's fat. The presence of unused fatty materials gives rise to fatty acids. These inevitably cause toxic symptoms. It is the custom to fatten babies with the idea that they must be healthy when fat, although this is by no means considered the rule in older people.

Milk Reduction.—For fifty years Dr. Jacobi has pleaded for milk dilution and for the reduction of fat and albumin contained in cow's milk. Albuminoid material, when not digested, putrifies. More cereals should be given than is at present the custom. There is no better disinfectant for the intestinal tract than a small amount of starch. Professor Huebner of Berlin has been converted to this position within the last few years.

Danger of Nephritis.—Dr. Chapin said that this train of symptoms, obstinate constipation and then an interval of offensive stools, with depression of the patient, is a familiar clinical picture to those who see much of children's diseases. The question of a kidney complication is well raised. There is no doubt that there is some kidney irritation. If the temporary condition is allowed to persist, it will give rise to nephritis. Constant passage of irritant material gives rise to parenchymatous nephritis. This is really the origin of the insidious kidney disease that develops so often in latter life, apparently without any reason. At times in the midst of these attacks the lungs suffer as well as the kidneys. Pneumonia is not an infrequent complication.

Chronic Intestinal Toxemia.—Dr. Southworth said that acute intestinal toxemia is well known, but chronic intestinal toxemia is not recognized sufficiently. It occurs always with constipation and may in sensitive nervous patients give rise to epileptiform attacks, so that the physician may suspect epilepsy. However, these symptoms disappear completely. Malodorous stools have a very persistent smell that even clings to the clothing. The treatment consists mainly in the regulation of diet, but the use of salol will be found not only to give good intestinal disinfection, but it also serves to reduce the irregular temperature which is so frequent an accompaniment of this form of intestinal intoxication.

Fulminant Symptoms.—At times in Dr. Southworth's experience, especially in delicate children who have not been well cared for, the symptoms of intestinal toxemia may become fulminant in character. The pulse becomes thready in character collapse ensues and death takes place from overwhelming toxemia. The bronchopneumonia of these cases usually occurs in the lower lobes of the lungs posteriorly and may give rise to the idea of a hypostatic pneumonia.

Liver Tumors.—In discussing Dr. Einhorn's paper Dr. Weir described certain cases that he has recently had under observation. In one there was a tumor in the hepatic region and the patient complained of gastralgia. It seemed as though the gall-bladder were affected. An exploratory incision was made and some of the scars on the liver surface were found to have the radiate, glistening character of syphilitic cicatrices. The wound was at once sewed up and recovery followed under antisyphilitic treatment. In a second case a slight swelling was found in the hepatic region and gave a good deal of discomfort. An incision evacuated an amount of bloody fluid and then considerable pus. A quantity of calcified material was found in a hole in the liver and this also was removed. The patient improved on mixed treatment, though there seemed very little hope for him.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, Held June 6, 1901.

The Vice-President, Herman Knapp, M.D., in the Chair.

Presentation of Dr. Thomson's Portrait.—Dr. W. M. Polk presented to the Academy a portrait of Dr. William H. Thomson, its former President. Dr. Polk said that Dr. Thomson's picture is a worthy addition to those already there. The fact that Dr. Thomson has been president of the New York Academy of Medicine (1899-1900) is in itself a mark of unusual standing in his profession. Nevertheless, Dr. Thomson's most distinctive qualities have perhaps been shown in his work as a teacher. A physician of wide experience and influence he has the rare gift of making the bare outlines of a dry subject take hold of his audience. He recognized early that the successful teaching of therapeutics involved not only talks on the dosage portion, but also the consideration of the physiological action of the remedies. He followed his idea so successfully and fascinatingly that his example is followed now wherever materia medica is taught. The subject, from being one of the dryest, has thus become one of the most interesting. Dr. Polk said that it is always easier to dwell upon the virtues and excellent qualities of a man who is no longer among the living than to speak of a contemporary, no matter how deserved the words of praise are in truth. However, the members of the Academy of Medi-

cine hope that it will be many years before one will be free to speak thus of Dr. Thomson, and when that time does come it will doubtless be said that he was the peer of any of those whose portraits are already on the walls of the New York Academy of Medicine.

Freezing-Point of Urine.—Dr. J. H. Huddleston read a paper on cryoscopy, the method of determining the constitution of urine by finding its freezing-point. As early as 1870 Bouchard employed this method in the examination of the urine. Malasser and Hamburger followed in 1872. In 1891 Dreser took it up and finally Koranyi began his studies in 1894. Koranyi's investigations were given to the world in 1898, but at the International Medical Congress in 1900 the method received its first extensive public notice. Outside of Germany and France, however, the method has as yet received comparatively little attention.

Law of Cryoscopy.—Cryoscopy is based on Raoult's well-known law and on Koranyi's theory of molecular interchange in the convoluted tubules of the kidney. Raoult's law may be stated briefly as follows: The lowering of the freezing-point of a solution is proportional to the number of molecules dissolved in the unit of volume of the liquid whatever be the nature and weight of the molecules. Of two urines, then, the one whose freezing-point is lower will contain more molecules in solution than the other. The value of urine as an excrementitious product depends on the number of molecules of dissolved material that it carries out of the organism. The number of molecules dissolved in the urine represents also, within certain limits, the permeability of the kidney. This principle is not absolutely true, because the sodium chloride dissolved in the urine cannot be considered an excrementitious product, as it passes out unchanged. Allowance has to be made therefore for the chloride molecules present by estimating the amount of chloride in the urine.

Koranyi's Theory.—Koranvi holds that water, containing sodium chloride in such amount that the solution has the same osmotic tension and therefore the same freezing-point as the blood plasma, is filtered through the walls of the glomeruli of the kidney. This solution, as it flows through the tubules and Henle's loops, returns to the blood a certain amount of water and a certain number of molecules of the sodium chloride and receives exactly the same number of molecules of more complex substances; in fact, it takes on the character of urine there. If the glomerular filtration is rapid the flow of urine is rapid and the rate of molecular interchange in the tubules per unit of urine is slow. Such would be the case with high arterial tension. On the other hand, if the glomerular filtration is slow the flow of urine is slow and permits a high rate of molecular interchange in the tubules. Such would follow in renal stasis or in injury to the glomerular wall as in glomerulo-nephritis. Again, no matter what the rate of urinary flow, if the epithelium of the tubules performs its work imperfectly or obstructs the interchange, the rate of that molecular interchange must be lowered. Such would naturally follow in tubular nephritis, or in any other organic or functional affection of the tubules.

Value of Cryoscopy.—The proofs of the value of cryoscopy must be found in clinical experience with the method and the determination of the accordance of its results with those of chemical observations made in other ways, as with the methylene blue test and with autopsies. A certain number of autopsies are on record in which the conditions present in the heart and kidneys were predicted by the results of cryoscopy, but as a clinical method it is not yet well worked out. Dr. Huddleston's own experience is limited, but, as far as it goes, testifies to the agreement of inferences from cryoscopy with those drawn from usual clinical methods. Comparisons are difficult, however, for urinary cryoscopy is pre-eminently a test of function, independent of structure.

Determination of the Freezing-Point.—Dr. Huddleston uses the method advised by Prof. E. H. Loomis of Princeton, who has been interested for a long time in the observation of freezing-points of solutions, for determining the freezing-point of urine. Professor Loomis' method is to place the test-tube in another tube a trifle larger, keeping them apart with a rubber band. The inside tube should be bottle-shaped at the bottom, so that the stirrer may go to its lowest point and dislodge any ice that would otherwise tend to mass itself there. The thermometer may be held in place by thrusting it through a cork. The stirrer may be a simple piece of spiral wire. There is then prepared a mixture of finely-pounded ice and water. This is put in a vessel of glass heavily wrapped with felt. Sufficient salt is added to this mixture so that the temperature is about that of the freezing-point of urine. The test-tube is filled about a third full of urine and exposed to the freezing mixture until the temperature of the urine has fallen about three- to four-tenths of a degree below the temperature at which the urine freezes. A tiny crystal of ice is dropped into the overcooled urine. This at once begins to freeze and the temperature rises, finally stopping at the freezing-point. This requires about one minute and a reading of the thermometer is then taken. This method determines the freezing-point within $^1/_{1000}$ of a degree Centigrade. Professor Loomis says that the instruments made by R. Fuess of Berlin, Germany, are the only ones that have given him satisfaction. Dr. Huddleston himself has found it helpful to use for the double tube two vials with flat bottoms and to put in the outer

sufficient absolute alcohol to make its level the same as that of the urine in the inner tube.

Foreign Methods of Freezing.—Foreign workers have advised cooling the urine by ether or carbon bisulphide rapidly volatilized by a current of air. The mercury falls slowly to a certain point and then suddenly, with or without the addition of the particle of ice, rises to the freezing-point; while it is rising it is especially necessary to keep the urine well stirred. After a moment, when more or less of the urine is frozen, the temperature gradually falls again to correspond with that of the freezing mixture. It is necessary, therefore, to take the highest point to which the mercury ascends as the freezing-point. The time necessary for this observation varies from fifteen to twenty minutes.

Precautions.—Certain precautions are necessary: The urine must not have undergone any fermentation, as the number of molecules and the freezing-point are affected by that change, freezing throws down a precipitate; the urine must be diluted until that action is avoided; no antiseptics and no medicine must be in the specimen. The percentage of sodium chloride is determined by Volhard's method. It must be remembered that, while cryoscopy is a notable advance in the application of quantitative physico-chemical methods to clinical work and while it may furnish information of considerable value in diagnosis and prognosis in cases of cardiac disease and to a less extent in other cases, it is distinctly a laboratory method requiring time and care.

Dr. Huddleston in conclusion expressed his obligation to Prof. E. H. Loomis of Princeton for much kind advice as to method and to Dr. J. J. Walsh of New York for the stimulation he gave toward the study of the subject of the paper.

Cryoscopy and Surgery.—Dr. B. Lapowski said in discussion that the method promises great things in kidney surgery. When one kidney has to be removed the important question is the condition of the other one. During the last ten years the custom has been to take urine separately from each kidney. The urine thus obtained was then examined microscopically and chemically. Nevertheless, there are cases on record in which the examination was made with all the care possible and the results seemed to justify the operation, but the patient died within twenty-four hours of uremia, not having passed one drop of urine. Cryoscopy can, perhaps, tell why these things have happened. The kidney has two purposes, the eliminative and the functional. Some ingredients are produced by the kidney alone, such as hipuric acid, for instance. Cryoscopy is a functional as well as an eliminative test.

Dr. Lapowski, however, does not think it sufficient to pay attention only to the urine. The blood also must be considered. To arrive at a correct conclusion one must try to determine not only what comes out of the kidney, but also what is brought into it. There are times when it is of the greatest importance to the surgeon to know, if possible, which organ is primarily affected, the heart or the kidney. Therefore the density and freezing-point of the blood should also be ascertained.

Dr. Lapowski congratulated Dr. Huddleston on his paper, the first one presented in this country on this subject. Cryoscopy is not only an advance in diagnosis; it is a method which will enable the physician to follow his cases more intelligently.

A Pessimistic Note.—Dr. Alfred Mayer said in discussing Dr. Huddleston's paper that he for one must strike a pessimistic note. Every practitioner has seen renal cases in which one kidney was absolutely cut off from activity by its sympathy with the other. Dr. Mayer has seen renal calculus limited to one kidney, where there was complete anuria, lasting from one to three or four days, during an attack of renal colic. The other kidney was perfectly healthy. It had refused to act merely out of sympathy. The pessimistic note is, Will or will not the surgeon get complications like this?

Dr. Huddleston said in closing the discussion that he agrees with Dr. Mayer as to the gravity of the question of complications arising in kidney surgery, which cannot be anticipated by any test. A kidney has been known to be diseased, and yet the patient had done well after operation, while again the kidney remaining might show no pathological changes and yet not work. Cryoscopy is still open to criticism, but it does show some advance in methods of diagnosis. As for the examination of the blood advocated by Dr. Lapowski, it adds a distinct element of danger in run-down cases. Koranyi seems to think it useless unless 10 to 15 centimeters of blood are employed, which is too much to take from the patient.

The Most Insidious Diseases.—Dr. Louis Faugères Bishop said the disease which the family physician fears most are not those which have definite names and figure most prominently in health reports. They are rather those which touch on the domain of the heart and the kidneys —Bright's disease, senility, arterial degeneration, and so on.

Extreme Arterial Degeneration.—Dr. Bishop showed a heart which was a remarkable example of extreme degeneration. It was not the heart he had meant to show as illustrative of some of the things he had to say, but one that had been sent instead by mistake. Nevertheless, it was so remarkable that he felt it was of sufficient interest to show under the circumstances. The patient was brought into the hospital in a state of collapse and aphasic. Dr. Bishop suspected extreme thrombosis of many vessels. The temporal and radial arteries stood out, extremely atheromatous. As the man showed some pulmonary symptoms he was put in the consumption ward. Before death occurred the man became very delirious. Dr. Bishop suspected white

thrombosis in the heart, as an explanation of the bad condition and the delirium. At the autopsy he found a white thrombus of considerable size in the right and left side. The left ventricle was hypertrophied and the coronary arteries supplying the right ventricular wall were diseased and thickened and had a distinctly nodular feel under the finger. The right side also showed fatty degeneration of the muscular elements. Dr. Bishop presented also the heart of an old man, who had an extreme kyphosis with a large spinal curvature under the left shoulder. He was thus deformed for eighty years and the heart was dented by the pressure of the spinal column on it.

Symptoms of Arterial Degeneration.—Arterial degeneration is usually marked by ruptures of the stiffening blood-vessels. Sometimes these cause hemorrhages into the lungs which are not very serious, but a rupture into the brain is a grave condition. There is greater danger, however, from secondary disease caused by arterial degeneration. These are the diseases of the heart and kidneys that arise from the thrombosis of chronic intoxication and overwork and the aneurism of the physical toiler. The degeneration is most interesting in the smaller vessels. Early recognition alone will enable us to combat the conditions that lead to cardiac and nephritic changes. The thickening of the arterial walls narrows the lumen and emphasizes other vasoconstrictions. This is most evident in the effect upon the brain. There is dizziness, occasional clumsiness of motion, sometimes a slowness or lack of response in a limb and mild aphasic symptoms. Once these conditions have become advanced and the connective tissues are fully formed, improvement is impossible.

The Victims Are the Useful Individuals.—The saddest aspect of arterial degeneration is that it attacks the members of the community who are the most useful and the most successful. The slothful and the indifferent are in no danger. It is typical in young, successful business and professional men, into whose lives hard work and a certain amount of dissipation enters. Heredity also plays a part in the tendency to arterial degeneration. The life of the blood-vessel in the main depends on the use made of it. The condition of degeneration is slowly developed and, in the meantime, the subject is often the type of health and vigor, the high blood-pressure to the brain stimulating energetic and complex activity. The color of the subject is usually ruddy, the walk is firm, the muscles well nourished, the digestion good. It is often the characteristic condition of the active man of many affairs, as well as of the woman in the whirl of social functions. Sometimes, however, the subject is slightly built and in contrast to the ruddy type, is pallid and nervous. These are generally the types characterized by indigestion.

Hygienic Measures.—The first thing is to remove as far as possible the cause of the condition. Syphilis figures more frequently in the etiology of arterial degeneration than seems to be generally thought. It is a disease of the intoxications—intoxication of alcohol, the intoxication of overwork, and the intoxication of indigestion and syphilis. Alcohol is a difficult factor to combat. Few who are addicted to its use will give it up. The physician must therefore insist at least upon its limitation to table use. In arterial degeneration digitalis and iron are contraindicated. Digitalis will hasten degeneration and excess of iron acts as an astringent and further interferes with the circulation. The alkalies, water, and the bitter tonics are the only agents that have a direct bearing on the condition. Moreover the necessity of rest, at all times and everywhere, should be impressed on the patient.

Symptoms Resembling Neurasthenia.—Many of the symptoms of arterial degeneration resemble neurasthenia. There is sometimes a momentary loss of power to grasp things, a sense of pressure at the back of the head. In these cases the bromides are useful. Sometimes there is a sort of chorea of the blood-vessels causing a hot sensation on the back and in the head, somewhat similar to the symptoms characteristic of the menopause in women. For these cases iodide of soda should be given in small and persistent doses. The latter type may also be given $^1/_{100}$ of a grain of nitroglycerin three times a day for one week each month. Business matters and personal affairs must be adjusted so as to avoid exhausting responsibilities and depressing worries. Work must, in fact, be given up to a certain extent. In the pallid, nervous, low-spirited, moody cases, associated with indigestion, this is especially necessary. Sometimes there is a rupture of the small blood-vessels of the conjunctiva. While it is in itself insignificant it may precede more serious symptoms, and in at least one recorded case sudden death followed.

Analogy between Nervous and Arterial Systems.—There is a close analogy between the degeneration of the nervous system and that of the arterial system. This much may be said for neurasthenia—a good neurasthenia frequently saves a man from an arterial degeneration later in life. It puts a damper upon his vital forces and inclines him to that letting-go of things which is his saving. This is especially true of those who have been of sanguine, enterprising and active habits. In both the diseases, prominent factors that have to be combated are the chronic intoxications of overwork, diet, drink and syphilis.

American Association for the Advancement of Sciences.—This large and influential body of scientists held their annual meeting Tuesday, Wednesday, Thursday and Friday of this week at Denver The attendance was large and many papers of unusual scientific interest were read. A special excursion to the Grand Cañon of the Colorado was planned to take place at the close of the meeting.

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ORIGINAL ARTICLES.

A STUDY OF THE TEMPERATURE LAWS IN EPILEPSY BASED ON ONE THOUSAND OBSERVATIONS.

BY WILLIAM P. SPRATLING, M.D.,

OF SONYEA, N. Y.;

MEDICAL SUPERINTENDENT, CRAIG COLONY.

BOURNEVILLE, editor of the *Archives of Neurology*, physician to the Bicêtre Hospital, Paris, disciple of Charcot, and editor of the complete works of the latter, seems to have been both the earliest and the most voluminous writer on the above subject. His studies date from the year 1869 to the present decade. His graduation thesis was upon the temperature in cerebral diseases, and he has contributed to medical literature at least a dozen papers upon the temperature in epilepsy and allied conditions alone. His works may be divided chronologically into two periods, the first from 1869 to 1886, the second from 1886 to the present time.

The reason for this subdivision is as follows: During the earlier period Bourneville had, to his own satisfaction and apparently to that of his colleague and that of most physicians, so thoroughly demonstrated the phenomena of the rise of temperature connected with epileptic paroxysms that the fact was taught dogmatically by Charcot and other eminent men. However, in the year 1886 a German, Witkowski by name, attempted to discredit both the observations and conclusions of Bourneville. The latter then repeated his experiments very carefully and published new and exhaustive data; and his colleague and disciple, Prof. Lemoine of Lille, also conducted a series of observations even more exhaustive than Bourneville's, so that between the two the facts seem established for all time.

It is somewhat unfortunate, perhaps, that of the writings of Bourneville during the first period, that is from 1869 to 1886, not one is to be found in the library of the New York Academy of Medicine, nor are there any reviews or extracts in temperature literature, except a few quotations elsewhere presented in this paper.

It is fortunate, however, that all of Bourneville's writings of the second period, namely, from 1886 to the present time, are to be found in this country, and, as the author himself repeatedly says, he confirms all his earlier findings, thus justifying, he claims, his original views which had been attacked by Witkowski. It is unfortunate that none of the studies of Witkowski are accessible at this time.

It is of interest and may be of some value to give a few citations from Bourneville's earlier writings.

Seguin[1] sums up certain observations which include Bourneville's: (1) During and between isolated seizures the temperature fluctuates. Clouston first noted an initial fall preceding the attack, but Charcot, Bourneville and others note a rise during the paroxysm and a fall between the paroxysms. (2) During the status epilepticus the temperature progressively increases, the remissions being less and less marked and in a few hours it attains 40° to 41° C. (3) The epileptiform attacks of general paralysis of the insane are always followed by high temperature which persists several days. (4) The epileptiform convulsions of hysteria show a relatively low temperature during a high degree of status epilepticus. In one case of convulsions persisting three months, the maximum temperature was only 38.5° C., while the mean was 37.4° to 37.8° C.

Gowers[2] cites Bourneville's statement that in status epilepticus with fatal termination the temperature runs up to 105 and 107° F.

Rosenthal[3] cites Bourneville on status epilepticus, the high temperature (40° to 43° C.), its persistence during the intervals between convulsions, and even increasing after convulsions have ceased.

Bourneville also mentions that his views were approved in the works of Laveran and Teissier (1876, page 63) and Axenfeld and Huchard (1883, page 782). The few authors, then, who quote from Bourneville's earlier writings, speak only of the high temperature of the status epilepticus.

Witkowski, who attacked Bourneville's views in the article "Ueber epileptisches Fieber, etc.,"[4] says that he has taken the temperature of epileptics for many years and, while there is often enough a slight rise of temperature during the paroxysm, it is often absent, and that there is no necessary relationship between the two. The exact cause of the phenomenon is undetermined. Witkowski, however, gives no figures or tables and, when his statements are contrasted with the careful, scientific and thorough work of Bourneville and Lemoine, his paper would seem to make a poor impression; in this case it appears that it is the Frenchman who is patient and accurate, and the German who is loose and flighty.

Before proceeding with a closer description of the work done by Bourneville, let me review one of the observations made by Seguin, as cited by Bourneville in his earlier writings.

In referring to the temperature in the epileptiform attacks of general paralysis, Seguin says:

[1] Medical Thermometry, 1876, page 226.
[2] Epilepsy, etc.
[3] American Edition, 1879.
[4] Berlin klin. Wochenschrift, Oct. 25, 1886.

"The epileptiform attacks of general paralysis of the insane are always followed by high temperature which persists several days." I am quite convinced that in this statement Seguin is wrong. During 1888-89 and 1890, at the New Jersey State Hospital for the Insane at Morris Plains, I had under my immediate observation twenty cases of general paralysis of the insane, two of whom were women, the rest men. All of them were carefully watched and studied, and not one of them ever had a general epileptiform convulsion or an epileptiform seizure of any kind that was followed by the usual train of post-epileptic symptoms, such as coma, sleep, etc. Most of the cases did have, however, toward the latter part of the second stage of the disease, and before the bed-ridden period of its third stage, frequent monoplegic attacks, convulsive in nature, that generally occurred in the right arm with occasional involvement of the left arm and legs, the rule being that a single member only was affected at one time. In such cases there was never any elevation of temperature, and I am inclined to think that the persistent high temperature following epileptiform seizures in cases of general paralysis, as noted by Seguin, was due not to the seizures but to the inflammatory changes going on in the cortical substance of the brain and which constituted the essential lesion of the disease. Then, again, it is perfectly reasonable to assume that any influence sufficient to disturb the pathological changes in progress would cause a temporary increased elevation of temperature; but it would not arise were it not for the already diseased brain.

Personally, I have never seen any elevation of temperature following epileptiform seizures in general paralysis of the insane that I felt justified in differentiating from the fever that was naturally due to pre-existing conditions and that was symptomatic of the existing brain lesion.

During the latter part of the third stage of general paralysis, when the patient becomes bedridden through sudden rapid progress of the disease, I have observed that the temperature generally runs high, sometimes to 104° F. and above, and that all convulsive phenomena cease when this condition sets in. It would seem that this might be readily explained as being due to the broken-down and exhausted condition of the cells in the brain that produce motion. An actual state of general paralysis has been established. So here we have a high temperature without the possibility of convulsive phenomena in any form.

Researches on the Temperature During Epileptic Paroxysms.—Bourneville and Lemoine's work was based upon over 500 examinations. Of these Bourneville reported sixty-four cases in 1886, but it is not just apparent when these investigations were made. In his *Recherches sur l'epilepsie,* etc., for 1886-1887, he reports 109 cases. In the same *Recherches* for 1891 he reports 66 observations, none of which were made prior to 1888. Lemoine in 1888 reports 182 cases. The grand total is 520 cases.

As a general rule the majority of these observations follow a law and may be described as typical while a small minority are atypical. Of the first series of 64, 60 were typical; of the second series of 109, 82 were typical; of the 66 cases, 58 were typical. Lemoine, who considered the subject from a broader standpoint, found in his 182 cases only a solitary exception to his normal, or type. Lemoine assumed that certain cases were naturally anomalous in the matter of temperature, having abnormally low temperature in health; hence the anomaly in these cases is not referable to the epilepsy but to the patient himself. From Bourneville's standpoint, there would be about 92 per cent. typical and from Lemoine's point of view upwards of 99 per cent.

Method of Conducting Researches.—Bourneville divides all cases of epileptic paroxysms in a fourfold manner: (1) Isolated attacks; (2) serial attacks; (3) cases intermediate between the serial attacks and the status epilepticus; (4) the status epilepticus.

In each of these categories he has sought to determine the temperature laws. Temperature was always taken *per rectum,* and invariably at three periods: (*a*) At the moment of stertor or at the immediate ending of the convulsive attack; (*b*) fifteen minutes after the taking of the first temperature; (*c*) two hours later.

The observations of isolated attacks by both Bourneville and Lemoine are tabulated carefully, the patient's name, etc., being given, as well as the three readings as above. Cases of the status epilepticus and serial attacks are not included, because the temperature was taken under different circumstances and the readings were very different in character. These latter are few in number and must not be confounded with anomalous cases of isolated attacks.

All observations were taken with a Centigrade thermometer. It should be emphasized that the 521 cases appear to be entirely cases of *isolated attacks.* Bourneville's article published in 1886-1887 is entitled *"De la temperature dans les accès isolés d'epilepsie"* and Lemoine's article also bears the same title. It must be remembered that the temperature in serial attacks and status epilepticus was an acknowledged fact and that what the reporters sought to prove at this time was the slight but constant rise of temperature co-existing with an ordinary isolated attack of epilepsy, this being a comparatively frequent phenomenon, while the *status epilepticus* was something newly described. Bourneville, indeed, having been the first to give it a thorough description. In determining the existence of this phenomenon (status epilepticus) one of the most salient points, or characteristics, was the high temperature.

It should be noted that in Bourneville's earlier work on temperature in epilepsy the facts which were uniformly accepted by others referred rather to the high temperature of the newly-described status epilepticus than to the slight but constant rise noted in the ordinary paroxysm; and that the investigations of Bourneville and Lemoine

were undertaken (after 1886) purely to demonstrate this latter fact.

Isolated Attacks.—Bourneville's conclusions were as follows: (1) Isolated attacks of epilepsy augment the central temperature. (2) This augmentation varies from .1° up to 1.5° and even higher at times. The average rise is about .5° or .6°.

Conclusions of Lemoine in Corroboration of Bourneville.—There is an access of temperature during the seizure, which afterward declines progressively. (1) In the majority of cases the elevation is slight, varying from .1° to 1.5°. Allowing 37.5° C. as normal, the elevation may vary from 37.6° to 39° C. Average rise, .7°. (2) It is rare for 39° C. to be exceeded. Out of 182 cases only 2 were beyond this figure. (3) The initial temperature at the moment of stertor is relatively low at times, not rarely being as low as 36.4° or 36.6° C. This is not supposed to denote an initial fall, because in these cases there is a still lower declension both fifteen minutes and two hours later. The cases are explained by an abnormally low normal temperature. (4) When the attack is unusually severe with prolonged stertor, the rise of temperature is more persistent. (5) In the same patient we may find notable differences between the temperature record at different seizures. In fact, it is unusual to find the same reading. (6) That the elevation of temperature is due to the epileptic access is shown by the fall of temperature within fifteen minutes.

Anomalous Cases of Isolated Attacks.—In Bourneville's series of 64 cases, he failed to record any access of temperature in 4 cases. In his series of 109 cases, 14 showed elevation only 15 minutes after the seizure. In 13 others the results were complex—in the majority the temperature was higher after two hours than at any previous moments, while at the 15-minute period the temperature was lower than before or after. In his series of 66 cases there were 8 irregular cases when the temperature was higher at the 15-minute interval than before or after.

Lemoine, in his 182 cases, found but 1 case in which there was an exception to his law of a rise at the access followed by a fall within 15 minutes.

Serial Attacks.—In Bourneville's article published in 1891, he gives his observations on 4 cases of serial attacks, meaning by this term cases in which a number of paroxysms occurred in a single day and on successive days, with intervals of rest. In these cases he took three temperatures as follows: The first at a given time, the second twelve hours and the third eighteen hours later. Of these 4 cases there were respectively five, fifteen, twenty and nine attacks in one day. The first temperature was taken at the moment of stertor after an access. In all the cases, the initial temperature was the highest and the readings at twelve and eighteen hours were progressively lower. The initial temperature varied from 38° to 38.6° C.; the twelve-hour temperature from 37.8° to 38° C., and the eighteen-hour temperature from 37.3° to 37.8° C. It would appear, therefore, that these cases do not differ materially from ordinary isolated cases. (See Lemoine's average.)

Status Epilepticus.—This clinical phenomenon was first clearly described by Bourneville. He characterizes it as follows: (1) Attacks incessantly repeated so that they overlap one another (subintrant attacks); (2) terminate in collapse variable in degrees up to the most absolute and fatal coma; (3) may end in hemiplegia; (4) pulse and respiration always increased; (5) considerable elevation of temperature, which persists during the (brief) intervals between convulsions and increases even when the convulsions have ceased.

Bourneville gives several fatal cases in which the temperature ran up respectively to 40.8°, 42°, 42.4°, and 40.9° C. In 1892 Bourneville reported a similar case in which the temperature was taken up to death. The record shows that the temperature increased slightly each day until at death it was 40.2° C.

Intermediate Cases.—Bourneville reports two cases which he considers stand midway between ordinary serial attacks and the status epilepticus. These are given in his *Recherches sur l'epilepsie,* etc., 1891, but are not especially significant, being thoroughly unique and atypical.

Personal Observations.—My own studies of the temperature laws in epilepsy extended over fifteen months and covered 1,000 records made in 250 cases. These included all types of the disease, though in some of them, such as the so-called hystero-epilepsy, a sufficient number of observations could not be made to warrant any general deductions being drawn. In classifying the types of the disease studied, the old symptomatic designations of grand mal, petit mal, Jacksonian and psychic epilepsy were used as being more generally understood. Something will also be said about the temperature in special epileptic states, as status epilepticus and serial attacks. The data made in each case in recording the temperature included the date, name of patient, hour of seizure, character of seizure, duration of seizure. Then followed three temperature records made immediately after the fit; half an hour after the fit; one hour after the fit, except in 75 cases and in these the second record was made one hour after, and the third two hours after the fit.

The method of taking the temperature in each case was uniform and in accordance with that given by Flint.[5] "The bulb of the instrument is to be placed within the axilla and the arm of the patient folded across the chest, the perspiration having first been wiped away. The instrument should remain in this situation eight or ten minutes. . . The axilla is a much better situation in which to place the bulb of the instrument than under the tongue."

For ordinary temperature observations this latter statement may offer some ground for difference of opinion, but that the axilla is the best

[5] Principles and Practice of Medicine, 5th edition, 1881, pages 98 & 99.

and only possible uniform place in which any number of reliable temperature observations may be made in epileptics immediately after convulsions is a statement that no one familiar with the conditions will for a moment question. After a convulsion many patients are so disturbed, restless, and violent often under automatism, that it would be dangerous to place a thermometer in any other place than under the arm, where the nurse may compress the arm in such a way as to insure a reliable record and at the same time prevent the destruction of the instrument, with possible injury to the patient.

Temperature Laws in Health.—Before proceeding further with a description of the work done in making my own observations, it will be well, as an aid to comparison, to refer briefly to the temperature laws in health and to speak also of the physiological principles governing the production and regulation of heat in the human economy. It is not likely that any one will question the statement that the normal temperature of the body is from 98.4° to 98.5° F.; nor is there room for doubt concerning its diurnal variation, the rule being that it gradually increases during the day, reaching its height between five and eight o'clock in the evening, after which it begins to decline, reaching its lowest point between two and six o'clock in the morning.

Not to have taken into account this diurnal variation appears to have been an omission on the part of Bourneville and others and one that might cause some deflection in the figures obtained, since the general average elevation noted by these observers was so slight as to admit of explanation under the laws of diurnal variation. But I would not be understood as stating that such error was made. I only say that evidence is lacking to show that it was avoided. In my own observations especial pains were taken to do this by recording the exact hour of each seizure; and when we come to study the results in detail the twenty-four hours will be divided into four quarters, so that all seizures occurring during a given quarter may be compared, under equal conditions, with a like number of seizures that occurred during a different quarter.

Modes of Production of Animal Heat.—Foster[6] says: "We may indeed at once affirm that the heat of the body is generated by the oxidation, not of any particular substance, but of the tissues at large; wherever metabolism is going on, heat is being set free. In growth and repair, in the disposition of new material, in the transformation of lifeless pabulum into living tissue, heat is produced. Of all the tissues of the body, the muscles, not only from their bulk, forming as they do so large a portion of the whole frame, but also from the character of their metabolism, must be regarded as the chief sources of heat. Whenever a muscle contracts, heat is given out. When a mercury thermometer is plunged into a mass of muscle, such as the thigh of a dog, a rise of the mercury is observed upon the muscle being thrown into the violent contraction."

Dalton[7] says: "In all instances, so far as observation goes, the production of heat in living organisms is in proportion to the activity of the internal changes going on in the body. Birds and mammals in which respiration is most active have also the highest temperature. Each separate organ has a special temperature of its own, which increases or diminishes according to activity or repose; and since the muscles constitute so large a mass of the body it is easy to understand how continuous muscular exertion should after a time produce a general elevation of temperature. The temperature of the body is increased by muscular activity. It is a matter of common observation, both in man and in animals, that exertion produces an increase in bodily warmth."

Kirk[8] remarks that "As the muscles form so large a part of the body, and as their metabolism is particularly active, it is reasonable to consider the muscular as the chief heat-producing tissue."

Landois and Sterling[9] state: "The muscles form about the half the whole mass of the body, and the bones nearly the other half. In the latter oxidation does not go on actively, so that the muscles must be the great seats of heat-production, or thermogenesis, in the body. This view is supported by the fact that the blood leaving a muscle at rest contains more CO_2 than the blood in the right ventricle. Muscular exercise greatly increases the metabolism and the CO_2 excreted; but at the same time there is great increase in heat production. The muscles, therefore, are the great thermogenic tissues and they yield four-fifths of the heat in health."

As far as it is possible for us at this time to determine, is it not essential that we consider here the influence exerted by the glandular system during the periods of their greatest activity (after the ingestion of food), nor the chemical changes going on throughout all the tissues of the economy, in so far as either of them may influence heat-production irrespective of the control possessed by the nervous system over their actions, for the reason that we do not now know of any established connection between them, acting normally or otherwise, in the production of greater heat elevation as the result of an epileptic seizure; but with the muscular system it is different and so it may be with the nervous system.

In reviewing the action of the nervous system in the production and regulation of heat, Kirk ascribes its power to the influence possessed by the vasomotor system (1) in controlling the metabolism of the tissues, (2) in the power it possesses in regulating the caliber of the blood-vessels, and (3) "there is evidence," he says, "to show that there is another nervous apparatus closely comparable to that which regulates the secretion of the saliva and sweat, by means of which the degree of heat is increased or dimin-

[6] Physiology, 1881, page 580.

[7] Human Physiology, 1875, page 305.
[8] Handbook of Physiology, 1896, page 407.
[9] Human Physiology, 3rd edition, page 364.

ished in the warm-blooded animals, as the occasion requires. This apparatus probably consists of a center which may be reflexly stimulated, as, for example, by impulses from the skin and which "act through special nerves supplied to the various tissues. The position of this hypothetical center is a matter of some difference of opinion. It has been demonstrated that stimulation of different parts of the brain may, among other symptoms, produce increased metabolism of the tissues, with increased output of carbon dioxide and a raised temperature; the parts of which this may be asserted are parts of the corpus striatum and of the optic thalamus. The exact situation of the heat center, however, is at present not known with certainty."

Thermal Cortical Centers.—Eulenberg and Landois discovered an area on the cortex cerebri whose stimulation produced an undoubted effect upon the temperature and condition of the blood-vessels of the opposite extremities. This region generally embraces the area in which, at the same time, the motor centers for the flexors and rotators of the fore limb and for the muscle for the hind limb are placed. Destruction of this region causes increase of the temperature of the opposite extremities.[10]

Cerebral Centers.—Ott, Aronsohn, Sachs, Richet and others have shown that if a needle be thrust through the skull and brain so as to injure certain more deeply-seated parts, there is a rise of temperature and increased heat production for several hours. Ott gives three areas which, when so injured, cause these effects: (1) A part of the brain in the median side of the corpus striatum and near the nodus censorius; (2) a part between the corpus striatum and the optic thalamus; (3) the anterior end of the optic thalamus itself.

Ferrier[11] says: "If the nervous system has a direct influence on the excitation and nutrition of muscles and glands apart from the usually concomitant vascular changes, it would follow by implication that the nervous system must have a direct influence on the production of heat, seeing that the muscles and glands are the chief foci of heat production in the body, and that in certain cases of cerebral and spinal lesion, as well as in functional disorders of the nervous system of an undetermined nature, there may be abnormal heat production of a local character out of all proportion to mere vascular dilatation—and to such extent as, if general, would be incompatible with life, seems to be established by numerous and well-authenticated observations." Ferrier does not believe that there is a special heat center, considering it an anatomical impossibility for such a center to have afferent and efferent relations with every part of the body.

Green[12] says: "Cases of nervous injury or disease not uncommonly occur in which one cannot help suspecting either that thermo-inhibitory centers or fibers are destroyed, or that thermogenic fibers or centers are irritated. Hale White has brought a number of such interesting cases together. In a most interesting case of bullet wound of the head accompanied by fever, not otherwise explained, it was found that the motor area of the cortex corresponding to Eulenberg's and Landois' heat center in the dog had been destroyed. It has long been known that injuries and tumors of the spinal cord, along which thermal fibers must pass, are apt to cause marked fever."

It will be well for us to bear these statements of Foster, Dalton, Kirk, Landois and Sterling, and Ferrier in mind, for they will be of great value when we come to study directly the causes of increased heat dependent upon an epileptic seizure.

The following summary exhibits all the observations made in 828 seizures and does not include 172 others which were tabulated far enough only to add confirmation to the results given in specified form.

Each group was studied in order, as follows: Group I., 516 grand mal seizures; Group II., 133 petit mal seizures; Group III., 81 psychic seizures; Group IV., 50 grand mal seizures with extended observations; Group V., 25 petit mal seizures with extended observations; Group VI., 17 cases of status epilepticus; Group VII., 5 cases of serial attacks.

It is impossible here to give the details of the observations, but the following facts were brought out in these studies.

Summary of Results.

Group. I.—This group comprised 516 grand mal seizures. The average duration of all the seizures, including the stage of active convulsions only, was a fraction over 1¾ minutes, the longest being 5, the shortest ½ minute. A single fit only lasted 5 minutes with a temperature of 99.6° F. immediately after, dropping to normal 30 minutes later. In five cases the fit lasted 4 minutes; all followed by increased temperatures, ranging from 99.2° to 100.6° F. immediately after. In 10 others, in which the fit lasted ½ minute only, the temperature was increased in all from .2° to 3.5°. This fact is mentioned to show the apparent lack of value in comparison between heat elevation following seizures of long duration, as compared with those of short duration.

Taking the 516 grand mal seizures collectively, we find that 297, or 57½ per cent., show an increase in temperature ranging from .2° to 3.5° immediately after the fit. Again, taking the same group of cases, we find that 80, or 15½ per cent., show subnormal temperatures immediately after the fit, ranging from 96.4° F. in one case to from 97° to 98° F. in 31 others. As this subnormal group will not be referred to again, it may be well to state here that after careful study we have been unable to assign any cause for the low temperature in these cases, other than the causes that operate generally to produce low temperatures in other conditions, such as chronic

[10] Landois and Sterling, Human Physiology, 3rd edition page 755.
[11] Functions of the Brain, 1886, page 86.
[12] Pathology and Morbid Anatomy, 1895, page 278.

asthenic diseases of long standing, defective nutrition, idiocy, imbecility, and epileptic dementia complicated with or without para- or hemiplegic infirmities.

Turning again to the 516 grand mal seizures, it will be noted that while 297, or 57½ per cent., showed increased temperature immediately after the fit, 330, or 66 per cent., showed an increase one-half hour later, the highest temperature being 102.2° F., the lowest, 97.4° F. At the third observation, one hour after the fit, 327, or 64 per cent., gave temperature increases above the normal, ranging from .2° to 3.5°.

Group II.—The average duration of the fit in this group was $1^2/_{100}$ of a minute, the longest being 4 minutes, the shortest ¼ minute.

Immediately after the fit 80, or 60 per cent., showed increased temperatures ranging from .2° to 2.5° above normal, while a subnormal record was made in 14, or 10 per cent. of the entire number, the proportion of subnormals being less in this group by 33 per cent. than in the previous grand mal group. The same 133 cases presented at the end of half an hour increased temperatures in 94, or 70 per cent., ranging from .2° to 4.5° above normal, while at the end of one hour after the fit only 70, or 52½ per cent., still showed an increase.

Group III.—The average duration of the fit in this group was a fraction less than in the petit mals, being about one minute. Immediately after the fit 49, or 60 per cent., of them gave increased temperatures ranging from .2° to 1.8° above normal. After half an hour 56, or 69 per cent., still showed an increase; while at the end of one hour 54, or 67⅓ per cent., showed relatively the same heat elevations.

Group IV.—In these cases, 26, or 52 per cent., showed temperature increases that ran uniformly through all the record hours, that is, those showing an increase immediately after the fit showed relatively the same increase at the end of the second hour. It may also be noted that 14 cases of this group that showed low temperatures immediately after the fit showed still lower temperatures two hours later, many of them dropping from slight increases above normal to subnormal.

Group V.—In this group 13, or 52 per cent., showed increased temperatures immediately after the fit. One hour after 16, or 64 per cent., showed increase; while at the end of the second hour after the fit 17, or 68 per cent., showed relatively greater increases than were noted immediately after the fit.

None of the seizures of this group were violent or severe, none lasting more than 60 seconds, so that in looking for the cause of heat elevation in them, we feel justified in at once excluding muscular activity. In many of them the muscles did not play any more important part than that required for the fibrillary contractions of some of the muscles of expression, chiefly those about the mouth, which are so frequently seen in petit mal and psychic seizures.

It is not possible for such muscular activity to increase the temperature of the body to 100° F.; it matters not how important a factor muscular activity may be in creating heat, and in such cases it is entirely within reason for us to assume that there has been a disturbance in the central nervous system, either in the thermal cortical centers described by Landois and Sterling, or, since motion in such cases is so insignificant, in the lower heat centers in the corpus striatum and optic thalamus.

It is a well-established fact in pathology that in disease involving the highest specialized tissues of the body, recovery takes place at a much slower rate than when grosser tissue is involved. By analogy, the same thing is true here. Increased heat of the body, due to simple increase in muscular action, will more quickly pass away than when such increase is due to a deep-seated disturbance of the heat centers of the brain.

Group VI.—The fact that status epilepticus is so often accompanied by extreme heat of the body is so well known and recognized that further arguments on this line would be superfluous here; this group is presented more to make the study of the temperature laws in epilepsy as complete in this paper as possible than for any other purpose. By studying the table, it will be noted that the lowest status temperature was 102.4° F., the highest, 107.5° F. In 11 the temperature ran up to 104° F. and over; and in 9 to 105° F. and over; while 107° F. and over was reached in 2 cases.

Group VII.—The difference between the duration of the attacks in this group, as compared with the duration in the status group, and further compared as to the temperatures that followed in each, is apparent at a glance. The highest temperature following serial attacks was 105.8° F., the seizures that caused it numbering 140, covering a period of 96 hours. In none of the remaining serial attacks did the temperature go above 100.8° F.

Death occurred in 28½ per cent. of the status cases; none occurred during serial attacks.

Conclusions.

1. In his conclusions Bourneville says: "Isolated attacks of epilepsy augment the central temperature." The only logical inference we can draw from this statement is that Bourneville found the temperature increased after every isolated epileptic seizure, and nothing exists in Bourneville's work on the subject to change this opinion.

2. The results of our own observations agree in part only with those of Bourneville, the latter's work having, in our opinion, lost much of its value through failure to properly classify the types of seizures studied and to make due allowance for certain physiological differences in temperature.

3. After making due allowance for diurnal variation, we find that 40 per cent. would be the

lowest of such cases showing increased temperature after seizures, and 70 per cent. the highest, making the general grand average of cases of all types showing increased temperature after seizures 55 per cent., the difference in the results obtained by Bourneville and by us being 45 per cent. The views of such eminent physiologists as Dalton, Kirk, Foster, Landois and Sterling, relative to the part played by muscular activity in creating heat, must in view of the activity of the muscular system in certain cases of major epilepsy have great weight in determining the cause of heat production in these cases, wholly irrespective of any influence that might be exerted by the heat centers in the brain.

4. By the results of our own observations, we are led to believe that in many petit mal and psychic attacks in which muscular activity plays so small a part, and in which the temperature is often increased after seizures, such increase is due to a disturbance either of the heat center that is thought to exist in the cortex of the brain, or of the center or centers that observers believe have been located in the corpus striatum and optic thalamus.

5. We find that subnormal temperatures follow epileptic seizures in greater proportion after grand mal than after petit mal or psychic seizures, the proportion being 15 per cent. of the former to 10 per cent. of the latter types; and that, while we agree in the main with Lemoine as to the cause for such low temperatures, when he says "Certain cases are naturally anomalous in the matter of temperature, having abnormally low temperatures in health," we do not believe that this explanation is altogether sufficient, but that there will usually be found to exist in these cases some chronic disease or general asthenic condition of long standing that lowers the stamina and vitality of the individual.

6. All that has been said by Bourneville, Lemoine and others, relative to the high temperature in status epilepticus, is confirmed by the tabulated results in the 17 cases referred to in this paper.

7. The temperature in serial attacks runs uniformly higher than in isolated attacks, but not so high as in status, serial attacks occupying midway ground, as to frequency, severity, temperature elevations and mortality, between isolated seizures and status epilepticus.

8. As a possible factor in establishing the presence of toxins or other agencies in the body prior to and possibly causing the convulsion, an effort was made to take the temperature in some cases when the aura was of sufficient length, before the attack; but it was done in one case only, and in this the heat, beginning two hours before the fit, ran steadily up to 102° F., when the patient passed into convulsion.

State Medical Society.—The annual meeting of the Pennsylvania State Medical Society will be held in Philadelphia, September 24th, 25th, and 26th.

THE TREATMENT OF PUERPERAL INFECTION.

BY DAVID J. LORING, M.D.,
OF VALPARAISO, INDIANA.

PUERPERAL infection is wound infection, hence, the treatment of puerperal infection becomes essentially the treatment of wound infection. The internal administration of drugs, except when employed to relieve some physiological embarrassment, or to allay pain, is not only of no benefit, but may become positively injurious. This is true for the reason that, with our present knowledge of etiological factors and pathological conditions, it is wholly unreasonable to suppose that we can safely introduce into the general circulation any drug which would either inhibit, prevent or destroy the growth or development of micro-organisms on which we now know every case of puerperal infection depends. Moreover, the dependence on the internal administration of drugs is so delusive and may create such a feeling of security that the proper treatment is postponed until the opportunity of saving life or the prevention of chronic invalidism is past. The proper treatment therefore is surgical and should be prompt, decisive and radical from the beginning. I know of no pathological condition in which the proper surgical treatment, early and thoroughly applied, can save more lives, or prevent so much chronic invalidism as that of puerperal infection, and none the neglect of which has caused so many deaths or resulted in so much suffering for women.

The treatment of puerperal infection should be limited to mean that occurring within the first four weeks after delivery, and treatment instituted for uterine infection later than this should not be considered as having been applied for puerperal infection, notwithstanding the fact that the lesion is the result of puerperal infection. There is so much difference in the condition of the tissues at one week, with the enormously developed lymphatics and vessels, and six weeks after this has past, that the lesion is wholly different and the demand for surgical treatment therefore becomes less imperative. Infections following early abortion, during the first or second month, with but little developed lymphatics and vessels, give rise to less septicemia and partake more of the character of septic endometritis; later abortions, that of infection at full term. The line cannot be sharply drawn between those cases which are purely abortional and those purely puerperal. The dangers seem to bear a direct ratio to the period of gestation.

Before proceeding to the treatment of the infected uterus, the responsibility for the rise of temperature should be placed in this organ. Puerperal women may have a rise of temperature from general causes, and these should always be excluded before determining that the case is one of puerperal infection. Probably seventy-five out of every one hundred women, who have a rise of temperature following labor, will assume a normal condition in a few days if left alone;

[1] Read before the Indiana State Medical Society, South Bend, Ind., May 16, 1901.

but of the remaining twenty-five a few will die and the remainder will recover with permanently-damaged pelvic organs and remain chronic invalids for life, and will always have before them the dreaded thoughts of undergoing some surgical operation. We must not be content alone with attacking mortality statistics, but we must attack morbidity statistics as well. It certainly would be desirable if every physician were able to make bacteriological cultures from the inside of the uterus, and thus determine, with precision, the exact nature of the infecting agent in each individual case; but no two bacteriologists agree on the method of collecting these discharges, and they are still debating it. The fact still remains, after all, that a vast majority of the profession prefer to be governed by clinical symptoms, rather than bacteriological investigation, except when made by the most skilled; and thus, the general practitioner, into whose hands these cases usually fall must either waste valuable time in determining whether or not he has to deal with a virulent streptococcus infection or adopt that plan of treatment which will do good in all cases and harm in none; at least, any sensible physician would, although the theorist might not.

In planning the proper surgical treatment, we should always have in view (1) the limitation of the infected area to the fullest possible extent; (2) the provision of abundant drainage for ptomains and leucomains and other tissue débris, the result of microscopic invasion; and (3) the introduction of some antiseptic, such as iodine in the form of iodoform, which will render the infected field sterile in the shortest possible time.

If these cases are seen early, within the first twelve or twenty-four hours, and we have reason to believe that the infection has gone no farther than the free surface of the decidua, for at one time all infections are superficial, simple intra-uterine irrigation, with normal salt solution or boracic acid, 2 per cent., may and often will effect a cure, and in such cases should be tried with a fair prospect of success. Strong antiseptic solutions should never be used in the uterine cavity, unless the same be followed immediately by curettage. Such antiseptics as bichloride of mercury and carbolic acid are eminently efficient in the destruction of germs, but at the same time they destroy cellular elements and this will always result in sloughing. This sloughing will not only afford abundant material for the further growth of germs, but it also retards regeneration of the new mucous membrane, and should, therefore, be condemned in every instance, except in those cases in which all damaged tissue can be immediately removed by curettage. If, on the other hand, the case be seen later, and the symptoms—such as high temperature—seem to warrant the belief that the germs have penetrated deeper than the free surface of the decidua, involving the lymphatics of the uterine walls or extending to the peri-uterine lymphatics, resulting in a general pelvic lymphangitis or septic peritonitis, no time should be lost, as here intra-uterine irrigation of itself can accomplish no good; but curettage and opening of the cul-de-sac should be resorted to, and the widest possible field for drainage obtained. In this condition, intra-uterine irrigation with antiseptics may be employed, as it is always to be followed by curettage. The technic should be as follows: The vulva should be scrubbed with soap and shaved; the vagina thoroughly cleansed with prolonged douching with bichloride of mercury, 1-5,000. The patient should then be anesthetized and placed on a table in the lithotomy position, the surgeon in the meantime having thoroughly cleansed his hands with the same scrupulous care that he would if he was going to open the abdomen. All instruments and gauzes and all other material to be used having been likewise sterilized, he should proceed as follows: A medium-sized perineal retractor should be introduced into the vagina, the perineum held back, and the cervix exposed; this should be grasped with dull forceps and great care should always be exercised that this is not used in such a way as to lacerate or wound the tissue; by this means the cervix is brought forward and the uterine canal straightened. The largest size return-flow intra-uterine irrigator which will pass the cervix should then be introduced and carried to the fundus, care being taken to avoid wounding of any tissue. The uterine cavity should then be thoroughly washed out with a 1-6,000 solution of bichloride of mercury, from one to two gallons being employed. This should be immediately followed by the introduction of the largest size sharp curette that will pass the cervix and the whole uterine cavity thoroughly curetted, all remains of mucous membrane being removed. The uterine cavity should again be thoroughly irrigated with not less than one gallon of normal salt solution or a 2-per-cent. solution of boracic acid, after which it should be thoroughly mopped with dry sterilized gauze sponges and all débris removed. Hemorrhage during this process may have been quite free, but this should be ignored. After the uterine cavity has been thoroughly cleansed it should be packed with 10-per-cent. iodoform gauze. According to the size of the cervix, strips of gauze from four to ten inches wide may be selected; these should be carried well up to the fundus and the uterine cavity thoroughly packed from above downward, the ends of the strips being cut off and left hanging in the vagina. The forceps still holding the cervix, a fold of mucous membrane should be caught up, just behind the cervix, and a transverse incision about one inch in length made in it. From this time on all cutting instruments may be dispensed with. The finger, separating the tissues passing over the posterior surface of the uterus, is passed up and boldly pushed through that portion of the peritoneum forming the floor of Douglas's cul-de-sac. This will usually be followed by the escape of a considerable quantity of blood-serum; the index finger of each hand should then be introduced into the opening and the incision stretched laterally, as far as the side of the

cervix; as the hemorrhage will be slight, nothing more than torsion of forcep pressure will be required. The patient should be lowered to the Trendelenburg position, and the wound thoroughly sponged clean. A gauze sponge, with tape attached, should then be carried up through the opening under the intestines, which will have already receded from the pelvic cavity so that they will give no further trouble; one or two fingers should be introduced through the opening, carried well up behind the broad ligaments on each side, and the ovaries and tubes freed of adhesions. If pus tubes should be found, they should be opened and drained, and the widest separation of all tissue structures and lymphatic spaces should be secured.

At this point of the procedure, our manipulations should be done with a great deal of care, and we should not be content until every organ in the pelvis is freed from adhesions and is in a position to be thoroughly drained. When this has been secured, the peritoneal cavity thus opened should be thoroughly mopped dry with sterilized gauze sponges, but no irrigation should be permitted. The cleansing having been completed, the sponge introduced to hold the intestines up may be removed and the peritoneal cavity packed. This should be done by carrying up strips of 10-per-cent. iodoform gauze into the peritoneal cavity to a level with the broad ligaments—one or more strips on each side being used—and the entire cavity filled, the ends of the strips being left long and hanging out into the vagina; after which the vagina should be packed with iodoform gauze and a proper dressing applied. Should the temperature immediately become normal, the uterine packing should be removed the second day and not re-applied; but if the temperature should continue a second dressing may be necessary. The cul-de-sac packing should be left from three to five days, when it should be removed and renewed, very lightly; this should be changed from time to time until the healing is complete. The iodoform here introduced immediately undergoes disintegration in the presence of the discharges from the tissues and free iodine may be found in the urine within three hours; the infected field will nearly always become sterile within twenty-four to forty-eight hours; moreover, the infected area is limited and the most abundant drainage secured.

In cases of grave sepsis—in fact, in cases not so grave—I believe it to be always advisable to precede this operation by an intravenous transfusion of from 500 to 1,000 c.c. of normal salt solution. The subcutaneous use of salt solution may be somewhat easier to apply, but it is by no means as useful and in my opinion should not be depended upon to the exclusion of the intravenous method which I usually employ in all such cases. In the general practice of this State I believe this method of the administration of normal salt solution has not become popularized, and for this reason I will here describe the technic I usually employ. All that is required is a glass percolator with a rubber tube attached, the lower end of which is provided with a stopcock, and a small metallic cannula, of the required size to be used in a vein, fitted to the lower end of the rubber tube.

The salt solution should be prepared by boiling chemically-pure chloride of sodium in distilled water for not less than fifteen minutes. This should be cooled down to about 105° to 110° F. and should then be poured into the percolator, after it and the rubber tube have been sterilized with $^1/_{2000}$ bichloride of mercury solution and washed in sterilized water. The percolator should then be lifted three or four feet above the patient's arm, the anterior surface of which has been previously sterilized in the usual way. A rubber tubing or any other ligature should be drawn loosely around the arm above the elbow, causing the vein to stand up prominently. The medium basilic vein (or, if this is small, the basilic) should then be selected and an incision made along the side of, but not over, the vein; the skin is retracted, the vein comes prominently into view, a few touches of the scalpel liberate the vein from its loose connective tissue surrounding, and without difficulty it is elevated from its bed. A catgut ligature should be placed around the vein at the lower end of the incision and tied; a second catgut ligature should be placed around the vein at the upper end, but not tied. The cannula, which has already been sterilized by boiling, is attached to the end of the rubber tubing, the stopcock opened, and the solution freely allowed to flow; this will at once empty the tubing of any collection of air; the stopcock should then be turned off until only a slow dropping results. A transverse incision should be made into the vein and the cannula introduced while the solution is still flowing; the cannula being carried up above the level of the upper ligature, which is then tied firmly around it and the transfusion allowed to proceed.

Time will not permit me to discuss the merits or demerits of other methods of treatment, but it suffices to say that if the plan of treatment here recommended be thoroughly and conscientiously carried out, I believe that there are very few cases of puerperal infection which may not be radically and permanently cured in a very few days. The few cases that will not yield to this kind of treatment will be those in which it has been delayed until general purulent peritonitis has set in, or metastasis to some other locality has resulted; or a few cases in which some other mortal ailment —as endocarditis—is present.

I am of the opinion that this plan of treatment is somewhat different from that usually employed in this State, but I would not desire it understood that I am in any way responsible for its introduction, but believe so far as I am able to learn it is due to the labors of Dr. W. R. Pryor of New York. To those who may desire to pursue the subject beyond what I have been able to say in this paper, I would certainly recommend his admirable little book, "Treatment of Pelvic Inflam-

mations." I believe the method to be perfectly safe. It requires no elaborate outlay of surgical instruments and no special surgical skill. From this time on I shall expect it to be extensively employed and will confidently look forward to a marked reduction in the mortality from puerperal infection.

GENERALIZED VACCINIA.

BY JOHN H. HUDDLESTON, M.D.,
OF NEW YORK.

There have been reported from time to time during this century cases of this eruption following vaccination, and I have collected and tabulated all obtainable reports of cases so named.

It appears that the name has been applied, not to supernumerary vesicles, but to an eruption which is composed of elements which pass through the successive stages of papule, vesicle, and pustule, in the same manner as those produced at the site of inoculation, which comes on some short time after vaccination, and which is diffused more or less over the body. Supernumerary vesicles are found in a small percentage of cases near the site of the original vaccination, but they are usually attributed to inoculation of the virus at the time of vaccination or later into an unnoticed lesion of the skin.

The cause of generalized vaccinia is disputed. Certain authors claim that every case is an auto-inoculation; usually, however, auto-inoculation produces one pustule or very few pustules, and such cases are not spoken of as generalized vaccinia. When, however, the skin is eczematous, auto-inoculation may produce an almost unlimited number of pustules over the affected area and such cases are frequently reported as generalized vaccinia.

The cases tabulated number fifty, twenty-five males, fourteen females and eleven with sex not stated. The ages vary from three days to sixty-two years; twenty-five are under one year and there are six adults. Twelve were vaccinated with bovine virus, either direct from the animal or preserved, twenty with humanized virus, one with cowpox and one with horse-pox, the last two by accidental inoculation. The source of the virus in the other cases is not stated. In twenty per cent., ten cases out of fifty, the case was not vaccinated in the usual way; eight of the ten came in contact with the virus in a vaccine vesicle on another person and the tenth ate vaccine crusts given intentionally in food. This last case was reported in 1809, and I have met no record of any repetition of the experience. Chauveau, however, induced a generalized eruption of vaccinia on horses by giving virus by the mouth, by inhalations, and by subcutaneous inoculations, so that the record of this case may not be scouted without further information. Six of the nine who contracted vaccinia came in contact with it in ordinary daily association or by sleeping with a vaccinated person; one bathed in the same water that had been used by a vaccinated person, and two sucked a vaccine pustule on the arm of another. Four of the fifty were revaccinated and in them the primary vaccination had not caused an eruption; the other cases were all primaries. In four cases the eruption developed before the fifth day and in twenty-eight cases from the fifth to the eleventh day after vaccination. The rest appeared later. Rarely the eruption came out on one day, usually it appeared in successive groups for about a week. One well-accredited case continued to develop the eruption until the forty-second day.

The number of vesicles present varied with the case from three vesicles to five hundred or more, but in each of twenty-four of the cases the number was less than one hundred. In forty-six per cent., twenty-three out of the fifty cases, eczema or other skin disease was stated to be present, and when it was present it was almost invariably the seat of the greater part of the eruption and in some cases it is stated explicitly that the entire eruption was confined to the eczematous area. Seven of the fifty cases terminated fatally, usually with some complication. A closer inspection of the cases with reference to possible etiology shows that in only three is the number of vesicles reported small enough to allow auto-inoculation to be considered a factor unless an extensive area of abraded skin is present. Of cases in which there was such an eczematous area and in which the reporter considered auto-inoculation a cause, there are nine. Of the thirty-eight remaining cases there are still thirteen in which skin disease was present, though in one of these an occlusion bandage was placed over the vaccination at the time it was performed; in two others the reporter stated that from the distribution of the eruption auto-inoculation could not have been the cause, and in certain others the eruption came at a date before the vaccine vesicle was probably ready to furnish material for auto-inoculation. With these thirteen cases omitted, however, in addition to the preceding twelve, there are still twenty-five in which the eruption is not explained by any condition of the skin and in which there are too many vesicles to make auto-inoculation probable, and a diffusion of the virus by the blood- or lymph channels is apparently a necessary explanation.

That the presence of eczema or other skin disease does not in itself constitute a marked predisposition to generalized vaccinia is shown by daily experience, and especially by the experience at the Hôpital St. Louis in Paris where for several years all the dermatological cases were vaccinated and yet but one case of generalized vaccinia appeared. The diagnosis, usually easy, may be extremely difficult; in ten of the fifty cases the diagnosis was confirmed by taking lymph from a vesicle at a distance from the original vaccination and inoculating it on a child or animal or both, and finding that a typical vaccine vesicule resulted. Inoculation on a calf of the matter from a variolous lesion produces little or no effect. The mother of one of the

proved cases had varioloid while the child's eruption was flourishing; that case and two others were considered variola until proof to the contrary was produced. Differential diagnosis must be made in some cases also from varicella, pustulous syphilides, milaria (Martin), the pustular eruption of bromides (Crocker), impetigo contagiosa, and the vesicular eruption which sometimes follows vaccinia. This last ground of confusion I have not seen mentioned, but it is illustrated by the following case, for which I have to thank Dr. F. S. Fielder.

A boy, H. J., eleven months old, was vaccinated with Health Department virus and the vaccination ran a normal successful course. On the third day a few "spots" appeared on the skin; on the fifth day Dr. Fielder saw the case and noted an eruption on the face, neck, arms, legs, and trunk, especially across the lumbar region; it consisted of small discrete vesicles on a base of papular or erythematous character. The vesicles were $^1/_{16}$ to $^1/_8$ inch in diameter, high and full. There was no eruption in the mouth. On the sixth day the case was seen by several physicians in consultation, and by them it was called vaccinia; it was also seen by some diagnosticians of the Board of Health and by them was called varicella. Some of the lymph was collected on this day. On the eighth day many of the vesicles were pustules. No umbilication was seen. The lesions kept on appearing a few at a time until the twenty-second day. There were three other children in the family none of whom had had varicella, and none developed it either before or after the vaccination. Four children were inoculated with the lymph taken from the vesicles, and neither a vaccine pustule nor varicella followed. The eruption was, I think, a vesicular eruption, which exactly like a roseola or an urticaria, sometimes follows vaccination just as all three sometimes follow antitoxin or drug administration. An added reason for this conclusion is that the eruptions of the roseola type may come on in the first three days, vaccinia usually not. The resemblance may be extremely close and the final test in any case is inoculation.

No.	Reporter.	Age.	Day eruption began.	Day eruption ended.	Number of Vesicles.	Remarks.
1	Longstaff ...	3 mos.	6	15	70	Slight eczema.
2	Martin	7 mos.	16	25	400	Slight eczema, proved by inocula ion.
3	Hutchinson .	3 mos.	8	10	General.	Vesicles became gangrenous.
4	Fox.....	4 days.	9	19	40	
5	"	7 days.	9	16	17	
6	Acland	3 mos.	14	42	28	Death 149th day.
7	Darling	17 yrs.	9	?	Several.	
8	Smith	3½mos.	9	16	Immense number.	Eczema.
9	Dauchez	45 yrs.	7	12	150	Moist eczema, but eruption on other parts.
10	Lacour	8 mos.	7	10	30	Death 27th day, diarrhea.
11	Moulinet	62 yrs.	9	15	25	Dermatitis.
12	Guéniot	5 mos.	7	11	280	Eczema.
13	Moulinet	38 yrs.	8	?	5	"
14	Choyau.....	3 days.	17	17	3	Proved by inoculation.
15	Padieu.....	8 mos.	5	13	200	Eczema.
16	Besnier	6 mos.	3	9	13+	"
17	Longet.....	18 mos.	8	12	Numerous.	" death on 15th day.
18	Richard.....	4 yrs.	11	11	53	Proved by inoculation.
19	Etienne	4 yrs.	15	?	General.	" " "
20	Richard.....	8 yrs.	?	?	20	
21	Cazelas	4 yrs.	6	14	180	Fed with vaccine crusts.
22	Jeanselme...	41 yrs.	11	14	500	Fungoid mycosis; proved by inoculation.
23	Roze	9 mos.	?	?	3	
24	Lereboullet .	9 mos.	5	?	250	Impetigo.
25	Rendu	18 yrs.	4	5	60	
26	Hervieux ...	1 mo.	8	?	General.	Proved by inoculation.
27	Peter.....	4 yrs.	?	?	"	Moist eczema.
28	Ledermann .	Child.	?	?	"	
29	Riether	7 mos.	21	26	300	Eczema; death on 31st day; enteritis.
30	Widowitz....	4 mos.	5	?	Numerous.	Eczema.
31	Dardignac ..	21 yrs.	12	16	77	
32	Vergely.....	3½ yrs.	24	?	30	
33	Kalischer ...	16 mos.	7	?	Face+ 14+	Eczema.
34	Stokes.....	9 mos.	2	?	Many.	
35	Aubry	5 days.	7	12	"	Proved by inoculation.
36	Dietter	1 yr.	14	19	Face+ 60	Death on 22d day; hydrocephalus.
37	"	3½ yrs.	11	29	Many.	Eczema.
38	"	3 yrs.	17	27	?	"
39	Voigt.....	9 mos.	11	21	?	"
40	Gaucher	1 mo.	9	?	General.	Death in few days.
41	Trousseau...	Infant.	11	?	27	Eczema.
42	Galliard.....	20 yrs.	5	11	60	"
43	Bouley.....	?	3	15	General.	Proved by inoculation.
44	Creyton.....	Child.	17	?	55	" " "
45	Boivin.....	1¾mos.	8	?	95	
46	Rigabert	9 mos.	12	?	General.	
47	"	17 mos.	12	?	"	
48	Monneret....	18 mos.	?	?	27	Proved by inoculation.
49	Warlomont..	Infant.	11	?	90	
50	Lacanan	"	5	15	25	

A MASSAGE ROLLER FOR THE APPLICATION OF HEAT OR COLD, COMBINED WITH ELECTRICITY.

BY ROBERT COLEMAN KEMP, M.D.,

OF NEW YORK;

INSTRUCTOR IN SURGERY, NEW YORK POLYCLINIC MEDICAL SCHOOL.

IN THE MEDICAL NEWS, New York, May 12, 1900, there appeared an article by me, entitled "A Metal Roller Water Tank for the Application of Heat or Cold." The instrument which is now presented is a slight modification of the one then described. On the handle of the new roller, there is a binder for the attachment of one of the poles of an electric battery. The present instrument is also more durable in construction than the old model. It is, in effect, a closed metal cylinder, about three and a half inches long and one and a third inches in diameter, revolving on axles, as demonstrated in Fig. 1. One of the axles is a hollow tube and through this the cylinder is filled with water by means of a small funnel. The axle is closed by a screw cap, furnished with a washer. It can be filled with hot or cold water, and thus applied to the patient, or it can be attached to one pole of a battery and employed in combination with electricity, or electricity can be used alone.

I have attached the roller to the negative pole of a faradic battery and the sponge to the positive pole, and secured excellent results in sciatica. On the other hand, two rollers can be employed with a single battery by attaching one to each pole, as demonstrated on a patient, see Fig. 2.

Naturally, the strength of the current in the two rollers is unequal when they are thus employed, but this can be obviated by regulating the battery so that the desired strength is secured in the roller attached to the weaker pole when

using massage with it under moderate pressure, while the pressure with the instrument attached to the stronger pole is made rather lightly. With the assistance of the patient and by the above method the result desired can be readily obtained.

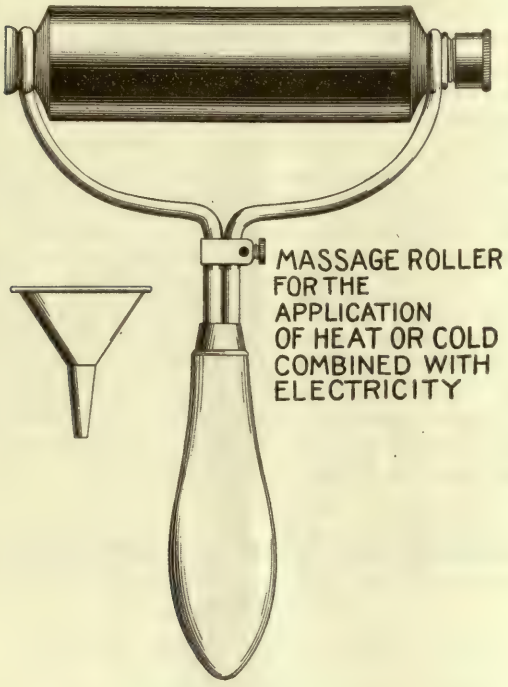

Fig. 1.

This instrument will be found to be of considerable value as an adjunct in the treatment of many conditions. In some cases heat or cold may alone be employed; in others electricity may be combined with them.

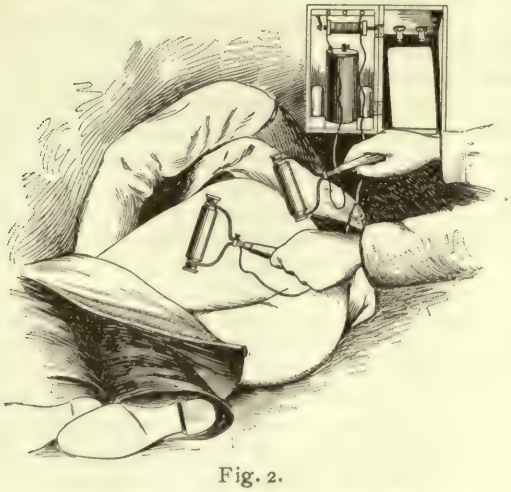

Fig. 2.

The general indications may be mentioned in brief: Alternating heat and cold, combined with electricity, can be applied to the spine, as for neurasthenic conditions, etc. A similar application could be made to the abdomen for chronic constipation. Fig. 2 demonstrates the method of attachment of the rollers. Cold can be employed for headache, heat for sciatica, muscular rheumatism (as stiff neck), lumbago, neuritis, intercostal neuralgia, rheumatic joints, etc. Hot massage for counterirritation may be applied over the kidneys in acute congestion and for oliguria. Electricity combined with heat has proved of even more value in these conditions, the roller being applied over the lumbar region of the cord, as well as over the kidneys. The faradic battery is connected with the instrument. This may seem a novel procedure, but clinically this method has been found to be a valuable adjunct in promoting diuresis. The addition of electricity seems to increase markedly the counterirritation and reflex stimulation, produced by the heat.

The hot roller can also be employed over the thorax in acute bronchitis, etc., as a counterirritant. If it is desired to use moist heat, the part can be covered with thin flannel wrung out in boiling water and the roller then applied over this.

To employ dry heat the best effects produced are by lightly skimming the surface with the instrument. It may be passed over a thin linen handkerchief, if the patient be especially sensitive.

The roller filled with boiling water is of considerable value for the purpose of inunction. Ointments made of lanolin can thus readily be rubbed in, as mercurial ointment in syphilis, or ichthyol ointment in rheumatism, etc. To avoid damage to the instrument it should be lubricated with olive oil which does not readily amalgamate with the oinment. It can be readily cleansed in boiling water.[1]

A CONSIDERATION OF HEMORRHOIDS.[2]

BY JOHN TURNER, JR., M.D.,

OF BALTIMORE;

PROSECTOR OF ANATOMY AND INSTRUCTOR IN OSTEOLOGY, UNIVERSITY OF MARYLAND; PHYSICIAN TO COURTNEY SCHOOL HOSPITAL; MASTER OF PHYSIOLOGY AND HYGIENE IN BOY'S LATIN SCHOOL.

THE rectum in the male is in relation in front with the trigone of the bladder, the seminal vesicles and the prostate gland, and in the female with the vagina and cervix uteri. The lower three or four inches of the rectum is uncovered by peritoneum. It is freely supplied by blood-vessels; the superior hemorrhoidal being the chief branch of supply, and the inferior and middle hemorrhoidal arteries completing the blood supply of the anal orifice, sphincter and skin about the anus. The communication between the two superior hemorrhoidal vessels is free, but they do not anastomose with the middle and inferior hemorrhoidal. The superior hemorrhoidal vessel passes down in the meso-rectum, and divides into two branches, each of which forms a loop on the side of the bowel about five inches above the anus. From these loops a number of vessels are given off which pierce the muscular

[1] The massage roller, with or without the binder for battery attachment, can be secured at the instrument store of James Dougherty, 409-411 West 59th. Street, New York.

[2] Read before Medical and Chirurgical Faculty.

coat and run down immediately beneath the mucous membrane to the anus. The veins have much the same anatomical arrangement as the arteries.

On each side of the rectum is a fossa called the ischiorectal fossa. It is two inches deep, pyramidal in shape and filled with fatty tissue. There are very few blood-vessels in this fossa, yet it is the common seat of abscesses and fistulæ.

The rectum begins at the left sacroiliac symphysis and ends at the anus. It is eight inches long. Some books describe the rectum as beginning opposite the third sacral vertebra, thus, allowing it no mesorectum. Frequently, the rectum is much dilated just above the anus. Large accumulations of waste products in the lower rectum have led to queer diagnoses. For our present purpose of describing hemorrhoids the mucous membrane and veins are the principal factors of cause and effect. The walls of the rectum differ from the rest of the larger bowel in presenting perfectly smooth walls marked by no sacculi, by no longitudinal muscular bands, and by no fatty appendices. The mucous membrane of the rectum is thicker than that of the rest of the large intestine. Certain folds, chiefly longitudinal in direction, are seen in a lax state of the tube; these disappear when it is distended. There are three oblique semilunar folds, which project into the lumen of the tube; one in front by the prostate gland and two others higher up; the latter are to the right, the former to the left. These folds when packed full of hard fecal matter are apt to sag and press too heavily upon the venous trunks, thereby making possible a pile by retarding the return flow of venous blood through these proper venous gutters or drainers of the rectum.

Congenital malformation of the rectum are not infrequently found, which have considerable to do with the presence or absence of piles. A rectum may be imperforate; or it may open into the bladder, or. more rarely still, it may open into the vagina. Sometimes the anal orifice, though present, is so small as to admit only a fine probe.

Hemorrhoids or piles may be defined as small tumors, composed chiefly of dilated veins of the rectum, surrounded by infiltrated connective tissue. It is one of the most ancient diseases known to the profession. The fifth book of the Bible has classed among the incurable diseases "emerods," itch, etc. In these olden times, the presence of piles barred a Catholic from becoming a priest. Piles are divided into internal and external. If internal, or red, they are covered with mucous membrane and are apt to be bleeding piles; if external, or bluish, they are covered with integument or skin, and are apt to be non-bleeding or blind piles.

Etiology.—Biologists find no condition similar to piles in the lower animals, and Darwin held that there appeared to be a natural deficiency in the anatomical structure of the rectum in man. Not so in the lower animals. This, then, leads us to ask, Was man primarily intended to move around on all-fours? However, as we do assume the erect position and, because of the fact that the rectal and portal veins are entirely destitute of valves, simple gravity may be one great cause of hemorrhoids. Anatomically, the superior hemorrhoidal veins in their upward course pass through little slits or openings in the muscular wall and at these constricted places compression is made, thus obstructing (to a certain degree) the free flow of venous blood. This obstruction causes the vein to dilate and consequently varices are formed. Heredity influences their formation as it does that of varicose veins elsewhere in the body. Operations about the liver, where the contracting scar-tissue presses upon the portal vein at the transverse fissure may cause piles. Pregnancy predisposes to piles; so also does overeating, overdrinking, constipation, enlarged prostate glands, enlarged ovaries, congestion of the liver and irregular meals; especially should we remember constipation, which is most frequently the exciting cause. They occur most commonly in middle life—rarely before puberty.

External piles are those little grape-like venous pouches, filled with clot and covered with integument, found at the margin of the anus. They burn, pain, pulsate, irritate and give general discomfort to the patient, especially during and after stool. The diagnosis is easy and the prognosis is good, if operated on early, and if acute in character, usually good, if the bowel is freely opened and kept in that state.

Treatment.—Palliative treatment means little toward curing the patient. In some cases, operative treatment is refused, and then we have to resort to palliative treatment. First, overcome the constipation; this is easily done by the use of confection of senna and sulphur (washed), compound liquorice powder; cascara, or other laxative. Avoid tobacco, wines, whisky, beer, and highly-seasoned food. When there is pain, relief is frequently found in an application of equal parts of extract of belladonna and opium, or belladonna and glycerin to the tumor, and then a hot fomentation should be applied. Leeches applied to the congested part often do good when severe inflammation exists. Sponging the parts with hot water and injecting cold water in the rectum three times a day greatly relieve the patient's discomfort.

Operative Treatment.—For venous piles, immediate relief may be obtained by incising the tumor and turning out the contained clot, and then dusting the parts with iodoform. Before making the incision, the part should be painted over with an 8-per-cent. solution of cocaine. A small piece of cotton should be placed between the lips of the wound if the pile be large, then keep the patient in bed for two or three days. For the cutaneous pile there is no remedy so efficacious as excision; do this even when the tumor is inflamed and edematous, for there is no bleeding which cannot be controlled easily by pressure. Some advise excision by dissection and afterward sewing up the skin. If the ulcer does not

rapidly granulate, stimulate it by applying balsam of Peru or sulphate of copper. Confine the bowels for a day or two and keep the patient in bed. The wound should be dusted with iodoform. Too free incision into the anus may result in a stricture; therefore, due care should be taken not to go deep when excising. Injection of carbolic acid in the pile is, we think, very bad surgery; the tumor thus disappears—by sloughing and destruction of its tissues—an extremely slow process. These injections sometimes cause severe hemorrhages, pyemia, and dangerous rectal strictures. It is rarely curative and is always extremely painful. Dr. Andrews of Chicago reported thirteen deaths from this treatment. The leading proctologists of this country have abandoned its use. Cocaine is most frequently applied as an anesthetic in these cases. Inject well around and over the pile and you may cut deeply and often without any pain to your patient, provided you inject into the skin and not under the skin—a mistake frequently made. The sac after excision should be swabbed out with equal parts of carbolic acid and glycerin; then dust with iodoform or boric acid and a small pledget of absorbent cotton, or iodoform gauze packed in the incision, and over all should be placed a cotton dressing held firmly in place by a bandage. Antiseptic precautions should be observed throughout the whole treatment. A good rule is always to administer a saline purge, preceding the operation, and to irrigate the colon with a normal salt solution just before operating on the patient. The after-treatment consists in keeping the parts perfectly clean and in frequently changing the absorbent dressing.

Internal piles are ordinarily divided into venous, columnar and nevoid. The venous hemorrhoid resembles the external, except that it is covered with mucous membrane rather than skin, and it bleeds easily, especially during defecation. We find this variety most frequently in drinking men and in multiparæ. The columnar hemorrhoid is quite common and is the hypertrophy of the folds of mucous membrane surrounding the anal opening, or the pillars of Glisson. They are red, elongated, and contain a parallel branch of the superior hemorrhoidal artery, hence their redness. The nevoid or capillary hemorrhoid is a small, bright red tumor having a spongy, granular appearance and is found high up the rectum. They bleed on slight provocation and often drain the system heavily. They closely resemble nevoid growths elsewhere. One of the first symptoms is frequent and sometimes constant bleeding, especially increased, however, during defecation. At the beginning the patient loses blood only at stool; later it may occur at any time, resulting in exhaustion and anemia.

I have now a patient under my care, who has to be carefully watched when at stool, for fear he may fall over in a fainting condition and injure himself. The flow of blood is profuse on some occasions. When this is the case, he becomes pallied and unusually nervous.

These piles may protrude and thereby cause a prolapsed rectum. With some the pile tumor may remain protruded so long that they become strangulated, having been caught by the sphincter; or they may inflame and become so congested that their great size prevents their return. The pain in these cases is excessively great. They may become gangrenous, and thus cure themselves by sloughing. These cures are, casually speaking, incomplete. In some rare cases of internal piles urinary disturbances and retention of urine may result from the anal irritation. If there is excessive pain during and after stool you will usually on close examination find a fissure *in ano*.

In arriving at a diagnosis of hemorrhoids, we must sometimes consider polypi, prolapsus ani, malignant growths, such as cancer, venereal warts, and villous tumors; also hemorrhages, pruritus ani and impacted feces may mislead us in our diagnosis. A careful inspection and examination will ordinarily settle the question. The prognosis is good if radical treatment is permitted by the patient. Many think they cannot be cured, and that they must of necessity endure them silently to the grave.

Two or three thousand years ago the itch, the botch, the scab and the rectal tumors (piles) were considered incurable by the Egyptians, who were then skilled physicians. At that time a man with hemorrhoids (and without any idea of antisepsis) was almost isolated. As we isolate cases of hospital gangrene to-day (if such happen to occur) so did they isolate cases of hemorrhoids. They dreaded piles as we dread smallpox.

Treatment.—In mild forms and during the early stage, palliative treatment is successful, but in severe cases, especially when there is much bleeding, nothing but a radical operation will give permanent relief. Avoid constipation; regulate the bowels with compound licorice powder, confection of serra and sulphur, or aloes and belladonna pills, with an enema in the morning. The patient should wash and grease the protruded piles after defecation and then carefully replace them by gentle pressure. The use of some astringent, such as nutgall ointment, will give relief. Regular exercise is necessary. Overeating is injurious, and drinking should be given up absolutely.

Operative Treatment.—The only curative procedure for piles is operative. The two chief methods of radical cure are ligature and the clamp and the thermocautery. Before operating, the patient should be prepared by the administration of a strong purgative the evening previous and immediately before the operation the rectum should be well washed out with two or three soap-and-water enemata. After giving the anesthetic, the sphincter should be stretched by the use of both thumbs till the tension of the muscle gives way. Then one can easily explore the whole diseased area; the pain, after operating is also greatly lessened by this simple procedure. The surgeon, moreover, is not deceived by

"blind" hemorrhage, that is, blood held out of sight of the examiner by the spasmodically contracted sphincter. This overstretching of the anus is a panacea for all nervous diseases, according to some writers. Place the patient during the procedure in the lithotomy position, keeping the knees well apart by Clover's crutch or other means. Each tumor should be seized with small volsellum forceps, drawn down and separated from the subcutaneous and muscular tissue from below with scissors. As the vessels enter the pile from above, there is no danger in separating the lower end of the tumor. The pedicle or stalk should now be tied closely with a strong silk ligature; make sure of the knot holding by employing three half hitches, instead of the usual two. Cut the ligature off short, also the tumor beyond the ligature, enough tissue being left to prevent the knot from slipping. I sometimes pierce the pedicle with a needle and tie in two halves, the superfluous portion being cut off. The ligature has been used for thousands of years—since the time of Hippocrates. The most noted rectal surgeons of the world have employed the ligature for hemorrhoids. Sometimes leeches are used to allay distress before operating.

In using the clamp and cautery the patient is prepared as before, the pile is seized by volsellum forceps, brought down, and clamped tightly with one of the numerous clamps, such as Smith's, Lee's, etc. The pile should then be cut off short about an eighth of an inch in front of the clamp, and the cut surface slowly cauterized several times with a cautery heated to a dull-red-heat. The clamp should then be slightly relaxed and if there is any bleeding, the pile-stump should be again cauterized. Some do not use the scissors in cutting the tumor off, preferring to trim it off with the hot iron.

After either of the operations just described, the parts should be washed thoroughly with an antiseptic solution, dusted with iodoform, and a morphine suppository introduced. Absorbent cotton should also be placed over the perineum and kept there by a T-bandage. One grain of opium should be given twice daily to confine the bowels for three days. Pain may be controlled by the same means. On the third day give the patient a dose of castor oil and keep the bowel well open daily thereafter. If there is difficulty in urination after operation for hemorrhoids, fomentation should be applied over the lower part of the abdomen and the patient asked to make a great effort to urinate. For a few days sometimes a catheter must be used to empty the bladder.

Many operations have been devised to cure these troubles, crushing, injecting carbolic acid, ignipuncture, etc. Dr. Whitehead of Leeds, Eng., has extensively practised and advocated excision of the pile, that is, taking the whole anus from the skin around the anus up to healthy mucous membranes above the pile, cutting it entirely away, and bringing the above circular cut surface down and stitching it to the anal orifice. The great objection to this operative procedure is that it is extremely tedious and bloody, and it may cause anal stricture—a most unpleasant result, which has been called by a famous surgeon (Hall of Edinburgh) the "stigma of a surgeon's art."

AUTOTOXEMIA.

BY WILLIAM W. PENNELL, M.D.,
OF FREDERICKTOWN, OHIO.

AUTOTOXEMIA is a condition of the bodily health modified by the absorption of harmful substances from the intestinal or genito-urinary tracts into the blood; poisonous substances originating within the body as the result of either defective metabolism and elimination or fermentative and putrefactive processes, or both, and producing well-defined symptoms.

It is not intended to insinuate that the body is a laboratory from which issue many poisons, nor that it is necessary that all the forces of the body be kept busy, normally, to prevent systemic catastrophes; but it is believed that the natural forces of the body are able to cope with the ordinary influences within and without itself, and that so long as these conditions exist there is good health.

Putting aside every harmful agency not autogenetic, the resisting powers of the body may become weakened by continued assaults from certain materials originating within itself, and, by entering the circulation, doing mischief in distant organs. Often such cases may be seen in the teething of children. Some contend that the results of dentition are simply reflex phenomena through the nervous system, but in my experience the absorption of materials occurring in not a few children increases the amount of solids in the blood which are faultily eliminated and this is the cause of the "reflex" symptoms, such as fever and nervous disturbances which are but the efforts of Nature seeking escape from its tormentors.

Again, we see these symptoms in the child with cholera infantum or in the adult with cholera morbus. The fermentative changes in milk fed to children explain the many infections of the intestinal canal and, because of the various bacterial forms that swarm in such an inviting medium, should warn us to withhold it as long as the alvine discharges are offensive. The names cholera infantum and cholera morbus might easily be eliminated from the nosological lists and names more in harmony with the cause substituted. The use of purgatives, eliminants and antiseptics in perhaps more than usually favorable cases, enables me to say that in twenty-five years I have not had a fatal result in cholera infantum. Not infrequently we see autotoxemia following in the wake of deficient menstruation—foul-smelling discharges, nervousness, coldness of feet and hands, and burning of feet with constipation. In

[1] Read before the Ohio State Medical Society, Cincinnati, May 10, 1901.

such condition good drainage, eliminatives, and support bring about equilibrium of the body.

The manner in which these disturbing influences are evolved is not well understood, but that there is a production of substances in the tissues or in the intestinal tract due to imperfect combustion or to bacterial influence, a few of which are known but many unknown, some of which are highly poisonous, is well recognized.

Many of the end-products of metabolism are poison, and they must either be decomposed or be speedily discharged or their accumulation occasions illness.

The possibility of convulsions and death from autotoxemia, as a medico-legal question, should not be overlooked. It has been my misfortune to witness death from ptomain-poisoning of autogenetic origin in patients whose kidneys were deficient in eliminating power. The constant elimination of intestinal toxins through the urine must in time result in diseased kidneys from the irritation that is engendered, and later on the production of toxemia. Hence, putrefactive and fermentative processes in the bowels, in a subject having imperfect kidneys, are liable to be followed by dangerous symptoms, if the effect of diuretics cannot be obtained.

Unquenched thirst or abstemiousness in the matter of water-drinking will cause the system to drink at whatever fountain is nearest. This in most individuals is the intestinal tract. Under this head it is fair to mention that the accumulation of ingesta in dilatation of the stomach, with its accompanying fermentation and production of a number of acids and gases, may lead to endosmosis of fluids into that viscus. This is a condition opposite to that which obtains in constipation, if we except the periods when Nature sets up a diarrhea to purge herself of intestinal accumulations. Ask your constipated, sallow-faced, pessimistic patient with the odorous breath how much water he drinks and he will tell you he rarely drinks any. He is an object of commiseration. He is a sort of compound engine, using the same fluid twice before its final release. The materials in his jejunum and ilium are liquid and semi-liquid as in the ordinary, well-ordered individual, but down in the colon a gradual withdrawal of the fluids begins and continues until little more than the solids remain. Is it any wonder he has headache, is morbid, has backache, with tender points on each side of the spine, which he imagines originates in his kidneys; and he is more than half right, for those organs are overworked to held keep the body clear of harmful materials. This man takes cold easily, dreads impotence, has palpitation of the heart and gastric distress. He is bilious, having attacks of vertigo; has a muddy skin, and, above all, has a breath like the emanations from a vault. In the female in addition to these symptoms, we find leucorrhea and quite often irregular and suppressed menstruation. And, if either has a phthisical tendency, the toxemic condition increases the asthmatic attacks,and both are, for the same reason, liable to diseases of the skin.

It is well known that dyspeptic, constipated persons are subject to a troublesome erythema as a result of intestinal infection. I remember a boy with an obstinate constipation whose erythema presented the appearance of scarlatina, and a woman whose erythema resembled erysipelas more than anything else, yet intestinal treatment readily dispersed the ailments. It is when this annoying skin affection is accompanied with fever that its nature is more perplexing, because neither the stomach nor the bowels present any warning note. A key to the situation is often found in the occurrence of an urticaria which is more frequently neurotic, just as acne and pruritus are toxic rather than gastric. But the most distressing skin affection from intestinal absorption is erythema. This symptom is usually symmetrical in distribution and may present a vesicular character; the urine is scanty, of high specific gravity and contains indican and ethereal sulphates. Its successful treatment requires adequate eliminatives and intestinal antiseptics.

The habit of spirit-drinking not only produces intoxication, but is also the cause of many autotoxemias. It matters not whether wine or other liquors are used in moderation or in excess, the symptoms of toxemia are sure to follow. They express themselves in obscure pains, weakness, inability to sustain continued effort, dyspepsia, diminished physical resistance, and often obesity, all of which are as often ascribed to other causes. These patients suffer from neuralgia—a pungent reproach of the nervous system—which the sufferers call "rheumatism," or are the victims of mysterious chills which are explained away under the term "malaria." In these matters abstinence works the cure which is frequently ascribed to other agencies.

Lithemia or modified gout belongs to this category of maladies. Owing to defective metabolism of the nitrogenous substances the blood becomes charged with morbid materials, principally of the uric-acid group. Remembering that uric acid decomposition is the main source of urea, and that urea is an end-product of proteid metabolism, it is easy to see that when this decomposition fails to ensue the uric acid accumulates in the blood, producing digestive and nervous disturbances—a uricemia— and only differs from true gout in the absence of local symptoms and deposit of urates about the small joints. The effect of this accumulation of uric acid upon the gastro-intestinal functions, upon the urinary secretion and upon the nervous system need not be mistaken, but ought to be typical of other toxic states of the body due to other metabolic defects or to fermentative and putrefactive changes in the alimentary canal. So pronounced are the features of this disease that they are often mistaken for separate difficulties. The dyspepsia, the gastralgia, the lumbar pains, the insomnia, neuralgia, sluggish circula-

tion and mental hebetude might easily be treated for long periods as distinct disorders, but when the lithemic state is observed no easier or more brilliant cures are made.

The time was when biliousness and hepatic torpor were regarded as diminished secretion of the liver. For the most part they are now looked upon as autotoxemias. Some writers maintain that the liver and intestinal wall protect the body against the forces that are evolved by fermentation and putrefaction in the intestines from bacterial action; and no doubt they do for long periods in given individuals. Patients we all have had in whom these processes went on from year to year without producing much inconvenience. But there comes a time when the antiseptic power of the liver and the resistance of the intestinal walls become insufficient or exhausted and the hurtful materials leap across the barriers in increasing numbers, and either find their way into the blood or act reflexly by irritating the nerve-endings in the intestines. The liver as a "detoxicator" is supposed to stand guard over the intestinal tube, discharging its duties by storing, destroying or excreting poisons. No doubt this is, for the most part, true. The very fact that the bile is the natural intestinal antiseptic leads us to the conclusion; but bile readily decomposes when exposed to the air, hence the necessity of keeping the liver healthy in order that its bile may possess its protective power in the highest degree.

Well-marked instances of autotoxemia are to be seen in those states in which jaundice is a prominent symptom. The highly-offensive condition of the feces shows that the antiseptic power of the bile has been withdrawn, the slow pulse, the chills and feverishness being the result of toxins from the bowels and not from the advent of bile into the blood. Likewise, certain states of the bowels supervene when the discharges are very offensive, when it is evident the bile is not sufficient in antiseptic or germicidal power to cope with the forces it is supposed to overcome. These states occur in those individuals who tax the protective cordons of the body to the uttermost. They eat more than they need—more than can be assimilated—and the surplus furnishes the conditions favorable to the resulting toxemia.

The theory of antitoxin is a beautiful one to contemplate, yet its sphere of action is hedged about with conditions. If a person were to continue imbibing poisons or produced toxins continuously, and we had to persist in the use of antidotes and antitoxins, I fear health and immunity would not ensue. Possibly the occurrence of autotoxemia in the lower animals is altogether unknown, especially when they are permitted to choose their own food and surroundings, but in man who has cultivated appetites for dishes that appeal to the taste and sensation alone, where satisfaction solely is sought in gormandizing or in the consumption of large quantities of unnecessary foods and beverages, and these are coupled with late hours or inadequate exercise and perhaps needless exposure, the liver as a detoxicator and the intestines as impregnable walls become physically disabled and perform remissly their sentinel duties.

The treatment of these conditions is foreshadowed in the references to them. Some of the medical brethren I have seen decry the benefits of intestinal antiseptics where plainly demanded and believe they are not practicable. Yet, I have known these same brethren to administer drugs with one purpose in view, and the remedies would bring about results in a far different manner than was calculated, unconsciously to the administrator. Let me refer you to an article which we most all use, but not for its antitoxic virtues as applied to the bowels. However, our intentions do not hinder it exerting its influence in the direction where it is not sent. I refer to the use of creosote in tuberculous patients and the antibacterial effect of this drug in the bowels of such patients whereby numbers of intestinal bacteria which swarm there are prevented from infecting the body and accelerating the general decline, the appetite is increased, digestion is promoted, and nutrition receives a new impetus. This seems to be the sole action of creosote in tuberculosis. There are other remedies that correct morbid processes through avenues which differ from our ideas concerning their action. Water, calomel, resorcin, salol, betanaphtol, sulphate of magnesia, and colonic flushing are agents at our comand to cleanse the body of highly prejudicial materials and also to give renewed vigor.

MEDICAL PROGRESS.

Dysentery in the Philippines.—Dysentery, as seen here, appears as two distinct diseases, writes M. H. BOWMAN (*N. Y. Med. Jour.*, Aug. 17, 1901). Acute dysentery is caused by Shiga's bacillus and does not produce abscess of the liver or ulceration of the colon. Its fatal result is due to inflammation of the bowel, rapid elimination of the watery fluids of the body, toxemia and exhaustion, and it requires from four to twelve days for its termination or crisis. Amebic dysentery is undoubtedly produced by amebæ, but there is also a non-pathogenic ameba which lives in the colon. The dysenteric ameba invades all three layers of the colon, makes punched-out ulcers or ulcers with undermined edges, and may produce liver abscess. It is somewhat larger than the other ameba. This chronic dysentery may show itself as an alternating diarrhea and constipation, without, for a long time, any marked constitutional symptoms. During the periods of constipation there is likely to be jaundice. When digestive disturbances supervene, the patient fails rapidly. The acute dysentery due to the bacillus of Shiga seems unaffected by medicines, and the treatment is supportive until the disease has run its course. Hypodermoclysis and rectal enemata of mild astringents and sedatives are of value. In amebic dysentery, magnesium sulphate is not indicated, but quinine solution effectually destroys

the amebæ. The employment of quinine in rapid, acute, ulcerating cases, however, is fraught with danger, and from the nature of such lesions it cannot be retained long enough to produce beneficial effects.

Adiposis Dolorosa.—This affection, characterized by a more or less widespread but irregular subcutaneous deposit of fat, accompanied by pain, and having no discoverable relation to any coexisting morbid condition, has scarcely been described except as occurring in women. C. FÉRÉ (*Rev. de Méd.*, Aug. 10, 1901) shows that it may occur in men. The condition may complicate muscular asthenia, mental disease, hematemesis, epistaxis. Death may result from pulmonary complications. The deposit of fat may not be accompanied by pain in the beginning; one may follow the other. Probably most of the so-called complicating symptoms are only accidentally associated. Two of Féré's patients were hysterical; two others gave a history of neurasthenia.

Agglutinine and Protective Bodies of the Serum.—It is well known that the views of various observers differ in regard to this subject. Some hold that agglutination is simply a reaction of immunity while others deny the identity of the protective and agglutinating substances. The question can only be settled by parallel researches with respect to these substances as they develop in the body and as they are affected by different conditions. ALDO CASTELLANI (*Ztschrift f. Hygiene u. Inf.*, July 31, 1901) has recently investigated this subject, working with the typhoid and colon bacilli and micro-organism of dysentery. He studies the subject from all points of view. Agglutinating and protective substances behave themselves in a like manner when submitted to various chemical and physical influences. There exists a parallelism between the development of these substances in the living body. In immunized animals at first the serum is richer in agglutinine than is the spleen while the latter contains more protective substances. The blood serum gains these substances at the same time, but loses the agglutinines sooner than the protectives. The serum of an animal immunized against a given micro-organism may possess a strong agglutinating power for another micro-organism without being able to produce an immunity against such. Animals inoculated with a given organism may develop agglutinine in their serum without forming at the same time protective bodies. These results force us to abandon the view that agglutination and immunity are closely related processes.

Enuresis in Children.—Assuming that hysteria in children manifests itself as a rule in monosymptomatic form, M. THIEMICH (*Berl. klin. Woch.*, Aug. 5, 1901) proceeds to discuss the relation between enuresis in children and hysteria. Most children suffering from enuresis, according to this writer, are the offspring of neuropathic parents. The spontaneous disappearance of enuresis or its cure by treatment is often followed by the appearance of other disturbances of a recognized hysterical character. Epidemics of enuresis have been observed in schools and asylums; in these cases, due to imitation, isolation suffices to bring about a cure. In the treatment of enuresis by faradism it is immaterial whether the painful current is applied over the sphincter vesicæ or any other part of the body, provided the child be made to understand that even stronger currents will be used if further treatment be necessary. Subcutaneous injections of strychnine owe their occasional success in the treatment of enuresis not to the drug, but to the suggestive value of its painful administration. As in hysteria, so in enuresis, each unsuccessful therapeutical measure in a given case lessens the value of future attempts at treatment.

Tuberculosis-like Bacilli in Human Feces.—Organisms whose morphology and staining reactions are identical with those of the bacillus tuberculosis have been found by different observers in various locations; thus they have been observed in butter, milk, grass and the feces of a number of animals. Very recently they have been found in human feces by THEODOR MIRONESCU (*Ztschrift. f. Hygiene u. Inf.*, July 31, 1901). He found them in the stools of a typhoid patient. They retained the Ziehl-Neelsen stain and occurred singly and in small group. They were somewhat longer and thicker than the bacillus tuberculosis. Some stained evenly, but others were beaded so that it was quite difficult to differentiate them from that organism. They grew abundantly upon ordinary culture media, developing on gelatin or agar plates in four or five days in the form of white, round, dry colonies. With respect to the staining reaction they retain their color after five minutes immersion in 33-per-cent. sulphuric acid, but on treating with 70-per-cent. alcohol most of the bacilli become decolorized. They are alkali producers. Protracted artificial cultivation deprives them of their tuberculous-like staining properties, but these are quickly regained upon passage through an animal. They are pathogenic for guinea-pigs, by intraperitoneal inoculation, in three to four weeks. This organism is not to be regarded as in any way related to the bacillus tuberculosis.

Action of Urotropin.—According to Nicolaier, the action of urotropin as a urinary antiseptic depends on the freeing of formaldehyde at the body temperature. A. GÖTZL and G. SALUS (*Prager med Woch.*, Aug. 1, 1901) contend that the antiseptic efficiency of urotopin cannot be so accounted for. In a series of experiments they ascertained that at a temperature of 17° C. a 5-per-cent. solution of urotropin will kill the microbe of ammoniacal cystitis, the bacillus coli and bacillus of typhoid. At 37° C. a ½-per-cent. solution will delay fermentation in an exposed urine as well as a 3-per-cent. solution at 17° C. The presence of albumin is immaterial. The power of urotropin to dissolve uric-acid concretions was shown in two experiments *in vitro*. On the internal administration of urotropin in 7-grain doses t.i.d., the freshly discharged urine often

gave no formaldehyde reaction with Jorissen's reagent; intense urotropin reactions were obtained always. The reaction of the urine did not materially affect the therapeutic results obtained.

Actinomycosis.—The somewhat rare occurrence of this disease renders opportunities for research in it doubly valuable. Since the primary investigations of Israel, Bollinger, Harz and Bostroem, most clinicians have regarded the bacteriology of this disease as established. The differences in the morphology of the organisms found by these observers have been very generally ascribed to pleomorphism. The latest researches in this disease come from W. SILBERSCHMIDT (*Ztschrift. f. Hygiene u. Inf.*, July 31, 1901) His results authorize different opinions from those formerly held. He examined bacteriologically seven cases in man and two in swine. Of the human cases one was not diagnosed during life; in three the disease was limited to the lower lacrimal duct; in three the disease ran a typical clinical course. The histories of these patients was carefully recorded and diligently compared with the results of the bacteriological examinations. The streptothrices isolated were inoculated into guinea-pigs and other ordinary research animals and were, as a rule, very little if at all pathogenic for them. He believes that the earlier ideas which hold that a certain streptothrix is specific for actinomycosis are incorrect. A number of different organisms are able to produce the typical clinical picture. It is not always possible to examine the nodules of the excretion microscopically, but even when this can be done the demonstration of microorganisms in them does not establish a diagnosis. Culture methods are necessary and when thus submitted the nodules are found to contain different streptothrices. The production of a pure culture of these is not so difficult as has been held. Aerobic and anaerobic agar and bouillon cultures are sufficient to accomplish this result. Mixed infections are not the rule in human actinomycosis. With our present knowledge it is not possible to differentiate bacteriologically actinomycosis from pseudo-actinomycosis. The greatest number of the organisms found in this disease belong to the streptothrix class, but it is not possible morphologically or biologically to subdivide this class at the present time.

Gold-Beater's Skin Court Plaster as a Dressing for Operative Wounds.—This plaster is composed of isinglass impregnated with a sufficient quantity of salicylic acid to render it aseptic. By a new method the plaster is boiled in cumol for one hour at a temperature of 315° F. E. A. DAY (*Amer. Gyn. and Obstet. Jour.*, Aug., 1901) recommends it because it is aseptic, antiseptic, and impervious to germs; it is then, pliable, transparent, fibrous and adherent; it forms a light dressing, readily removed by the application of moisture. This material can be used when it is desired to approximate the skin surfaces of wounds without sutures.

Nasal Suppuration; Its Causes and Differential Diagnosis.—Up to a dozen years ago little had been done and less written on this subject. To-day at least the foundations of accurate knowledge have been laid. S. HORACE LAW (*Dublin Jour. Med. Sc.*, Aug., 1901) divides the subject into two parts—one, suppurative affections of the accessory sinuses; the other, all other conditions which may produce a discharge from the nostrils or nasopharynx. In children foreign bodies often are the cause of a fetid discharge from one nostril; such bodies may form the nucleus of rhinoliths. Diagnosis depends on the history, unilateral discharge, and on touching the foreign body with a probe or seeing it. Excluding polypi, the only tumors which cause suppuration are malignant. Pus may come from the anterior nares in suppurative conditions of adenoid vegetations; a fetid odor is a common accompaniment. Syphilitic necrosis of the nasal bones most frequently attacks the septum. Among ulcerations, frequent forms are lupoid, tubercular and syphilitic. Abscess of the septum follows injury; and is painful in contradistinction to previously mentioned conditions. Atrophic rhinitis or ozena has a distinct and marked smell; the patient, however, does not appreciate the smell at all. The large open space, adherent crusts, characteristic smell, possibly the sunken bridge of the nose—all tend to facilitate diagnosis. Most writers now hold that polypi are secondary to some form of suppuration in the nose, and not that the former are cause while the latter is effect. In regard to disease of the sinuses the old idea that pain under the eyes denotes antral trouble, pain over the eye, frontal trouble, and occipital headache or pain at the vertex, sphenoidal disease, is regarded as fallacious. Tenderness over the palpable cavities is not invariable, though fairly constant. Symptoms will vary in accordance with the open or closed condition of the normal orifice of the involved cavity. The first step toward locating the diseased cavity is to determine whether the pus comes from above or below the middle turbinate body; in the former case the sphenoidal sinus or posterior ethmoidal cells are the source. An occluded antral suppuration is rare; if present the inner or nasal wall bulges and there is infraorbital pain; transillumination aids in diagnosis and probe function makes diagnosis certain. In acute frontal empyema orbital swelling and protrusion of the eye with intense pain are marked symptoms. In the open form, with pus coming from near the anterior end of the middle meatus, a probe may be passed into the cavity and a cannula introduced, followed by washing.

Pest Toxin.—There are present in the sterile filtrate of pest bouillon cultures certain substances which upon inoculation produce in mice and rats an acute, in guinea-pigs and rabbits a chronic intoxication. These substances have been called "pest toxins" and have been submitted to much much investigation. The latest work in regard to them comes from MARKL (*Ztschrift. f. Hygiene u. Inf.*, July 31, 1901). He shows that the pest bacillus freshly isolated from the animal body and cultivated aerobically in bouillon always produces

soluble poisons. The power of these differs according to the nature of the mediums, the age of the culture and the variety of research animal employed. With increasing age of the culture their power on mice is gradually lost, but this immediately returns when the culture is newly transplanted. By the inoculation of gradually increased doses one can produce a high degree of resistance in research animals, the blood-serum of which if drawn at the proper time is antitoxic to the pest bacillus and is able to immunize animals infected with this organism. The correct time to draw such blood is three or four weeks subsequent to the commencement of the inoculations. If in addition to the toxin inoculations one subjects the animals to a series of infections with the dead bodies of the bacilli a combined immunity both against the toxins and infection may be produced. Here the best time to draw the blood is three or four weeks after the last toxin inoculation and one or two after the last culture injection. Such serum posses no toxic power no matter how soon taken after the last inoculation. By heating the filtrate of pest bouillon cultures to 50° C. the poisonous effect on mice is lost, while it remains for rats, rabbits and guinea-pigs. This shows that the filtrate contains two different yet filtrated poisons.

Treatment of Internal Hemorrhage.—During the past three years subcutaneous injections of gelatin have been used with success in the treatment of internal hemorrhages by Quincke, Wagner and others. A series of these cases is now reported from Kiel by DR. GRUNOW (*Berlin klin. Woch.*, Aug. 12, 1901). The preparation used was a 2-per-cent. solution of gelatin in physiological salt solution; the quantity ordinarily used was 200 c.cm. Among 27 cases, including severe hemorrhages from the lungs, stomach, intestines, bladder, kidneys and aneurisms, but one case terminated fatally. The pain at the injection-site is usually severe and in some instances fever and a urticarial eruption follow, but these accidents are regarded by the author as of relative insignificance. The buttocks offer the most convenient site for the injection of the gelatin solution, as the tension of the loose tissues beneath the breasts differs in the various stages of respiration. The latter site is particularly to be avoided in pulmonary cases suffering from dyspnea.

Infantile Typhoid Fever.—The symptoms run about as follows, writes A. A. STRASSER (*Med. Rec.*, Aug. 24, 1901). Few prodomata, incubation not noticeable by any change of action, no headache, there may be initial convulsions. The fever is the prominent symptom and is more or less erratic. Diarrhea and obstipation are about as frequent as in any other infants' disease. Epistaxis and bronchitis are common. The tongue is only that of any fever; rose spots are not always present. The spleen and liver may be enlarged, but are often found so in other diseases of children. Typhoid may be mistaken for malaria, gastro-enteritis, broncho-pneumonia, tuberculosis or meningitis. Abortive cases are frequent, mortality is less, and convalescence more rapid than in adults. The ideal treatment consist of a modified Brand method of baths, cold packs or alcohol rubs, combined with a modified Woodbridge treatment with salol, bismuth compounds, etc. For constipation calomel, for hemorrhage or meteorism turpentine or ice-water enemata may be recommended. Urotropin will act beneficially on the bacilli-laden urine. When convalescence has begun and not before, tonics are indicated.

Heart Disease and Its Treatment.—The predominence of the heart muscle itself in the clinical bearings of heart disease—excuding septic endocarditis—is emphasized by GRAHAM STEELL (*Quarterly Med. Jour.*, Aug., 1901). It is the muscle of the heart that we can almost alone influence by treatment. Even here our sources may be crippled by toxic degenerations and by mechanical conditions, such as narrowing or thrombosis of the coronary branches. Steell believes that harm is done in heart cases by excessive carbohydrate diet, owing to the congested state of the liver and the resulting crippled state of the organ, the functions of which are probably augmented by a largely carbohydrate diet. For the treatment of gastric catarrhs due to cardiac incompetence twelve or twenty-four hours' abstinence is recommended. The question of digitalis being a factor in the production of the sickness has to be considered. The quantity of urine passed is the best guide as to the administration of digitalis; the drug acts slowly, and when diuresis sets in before the lapse of a certain time it is probably spontaneous and not the result of the treatment. Occasional sharp purgation is especially useful in the face of high arterial tension. Simple rest in bed will frequently induce profuse diuresis with disappearance of dropsy. While tonics and strychnine can be given with impunity, Steell prefers to postpone the use of digitalis until dropsy or an engorged liver indicates its use. Paroxysmal dyspnea specially indicates the use of morphine; where such dyspnea is associated with much tension of pulse nitrites and alcohol will at first give relief.

The Prognosis of Traumatic Hysteria.—By far the larger number of cases are made the bases of personal injury claims, writes PEARCE BAILEY (*Med. Rec.*, Aug. 24, 1901), and it is easily understood why a hysteric is often misjudged. The disease finds expression in physical symptoms, such as paralysis, defects in sight, smell, hearing, etc. The normal sensory stimuli fail to be transferred to association systems, and the patient feels, sees, tastes, smells, etc., without being aware of it, and with a firm belief in his own incapacity. Since such belief is false hysteria deserves to be classed among the delusional insanities. It must not be forgotten that a fixed idea may disorganize the life of an individual as much as a surgical injury, and that it may take root so deep that it can never be gotten rid of. In traumatic hysteria, bad heredity makes the prognosis unfavorable, for instability of nervous func-

tion is the natural birthright of children of the insane, epileptic, alcoholic or other degenerates. In the author's experience, however, many of the victims of traumatic hysteria have as good family records as most people. The older the patient, the more likely are the symptoms to become permanent, especially in the presence of chronic diseases; alcoholism and arteriosclerosis being the worst. In the healthy and well-nourished there is more hope. Monoplegias usually recover rapidly, hemiplegias less rapidly, and paraplegias are most rebellious. Twitchings, hiccough, and choreiform movements are of little significance. Shifting, inconstant anesthesia is of more favorable omen than that which is profound and constant. Blindness and deafness may be serious, but affections of taste have accompanied the mildest only of the author's cases. If, after an accident, a patient could be isolated and cared for properly, he thinks we would hear very little of persistent traumatic hysteria. Likewise it is practically impossible for a patient to recover from this disease while money is at stake, so the longer the litigation is postponed the more permanent are the symptoms likely to be. Nevertheless the money is not the cause of the symptoms, and immediate recovery on receipt of damages is not to be expected. Indirect suggestion, by convincing the patient that he can do things which he thought impossible, is the most efficient treatment.

Origin of Oxalic Acid from Protein and Protein Derivatives.—Whether oxalic acid is a metabolic product, or is found in the urine and feces only as a result of elimination of that which is taken in the food, is considered exhaustively by A. E. AUSTIN *(Boston Med. and Surg. Jour.*, Aug. 15, 1901). This writer concludes that oxalic acid is derived from the carbohydrate group in albumins, presumably through the intervention of glycocoll by a process of splitting through which the remainder is converted to urea—a vital process, though imitated by strong oxidizing agents. Oxalic acid may also be derived from uric acid by fermentative action and oxidizing agents, and perhaps also by vital processes. It is present in many of the organs of the body, and is present in urine after long periods of fasting. It may be classified with acetone and oxybutyric acid as a measure of abnormal retrograde metamorphosis.

Prognosis and Treatment of Hernia in Childhood.—The cure of rupture in children is on the whole easier and simpler than in the adult. Nevertheless such cases are often allowed to go uncured owing to apathy and indifference on the part of parents and guardians. The natural tendency toward spontaneous cure is greatest in the first months of life, and becomes steadily less each year. G. HEATON (*Quarterly Med. Jour.*, Aug. 1901), from a study of over 2,000 cases of rupture before the age of twelve years, concludes that usually cure by a truss may be confidently expected when its use is begun in the first twelve months of infancy; after the age of six or eight years the prospect of cure by truss is very much smaller. Umbilical herniæ in young children are most amenable to treatment; a well-applied pad or truss generally suffices. Where the umbilical cord is dilated into a sac at the navel, surgical interference should be prompt. Femoral herniæ are at the other end of the list as regards treatment by truss; but even in female children this class of hernia is comparatively rare. Social conditions determine the amount of persevering and intelligent coöperation to be expected, and has important bearing on prognosis. Special attention should be paid to digestion, inasmuch as flatulence and irregular action of the bowels put increased pressure on the inguinal and femoral rings. Bronchitis, rectal polypus, a tight prepuce, or any condition which causes straining or crying, is a potent factor in maintaining or even causing hernia. While favoring a trial of properly applied trusses in young children suffering from reducible inguinal hernia, Heaton strongly advises operation after the age of five or six years.

Infection Spread by Domestic Pets.—Communication of anthrax and glanders from lower animals to man has long been established, and we know of the like transmission of scarlatina, diphtheria and enteric fever by cow's milk. On account of the filth engendered, the German law prohibits the keeping of domestic animals in pharmacies. W. B. MEANY (*N. Y. Med. Jour.*, Aug. 17, 1901) gives a resumé of cases of diphtheria in pigeons, chickens and cats, and reports disease resembling human diphtheria in swine, sheep, horses, cattle and dogs. Hair, fur, wool and feathers undoubtedly carry such infection. The plague has been spread by cats, probably caught through their rat-hunting propensities.

THERAPEUTIC HINTS.

Infantile Convulsions.—The chief therapy should be directed to removing the cause. During the convulsion, if there is high temperature, the child should at once be placed in a tepid bath and cold water poured over it. Acetanilid or quinine may be given. In reflex convulsions, especially from colic, a warm or mustard bath is serviceable. This is contra-indicated if there is cerebral disease, or if the convulsions appear at the end of an exhausting illness. Indigestion indicates an emetic or calomel, swollen and tender gums should be scarified, and otitis relieved by puncturing the membrane. The violence of the spasm may be checked by the inhalation of a few drops of chloroform or nitrate of amyl. The general irritability may be diminished by bromides, chloral, belladonna, or cannabis indica. Ice or wet cloths should be applied to the head if meninigitis is suspected. In infants a few weeks old, convulsions are usually due to dyspepsia, and the food should be changed at once. The bromides are useless or harmful in such a condition. —ASHBY and WRIGHT in "Diseases of Children."

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SATURDAY, SEPTEMBER 7, 1901.

IS THE NEW YORK HEALTH DEPARTMENT WHAT IT SHOULD BE?

IN estimating the value of a health department to a large municipality, it is to be regretted that tangible factors whereby its efficiency may be measured are for the most part lacking. We know of no ready means by which, for the time being at least, such a department may be known to be doing its duty in protecting the lives of the citizens who bring it into existence. Modern health board work is largely devoted to prophylactic medicines and the results of lazy and incompetent officials make themselves known only after an appreciable length of time.

There is, however, a flavor connected with hygienic science which, if of the true type, can convince the intelligent citizen of the character of the work being done, and it is with regret that we register our feeling that the health department of this city, taken as a whole, does not bear that stamp of genuineness that we would like to see.

Primarily there is a forced air of clericalism, a dry-rot formalism in the work done that presage political influences. These evidences, combined with the significant fact that the Department has been apparently most signally outdone in its efforts to control the smallpox epidemic, lend more than an air of probability to the sentiments voiced in the *New York Times,* under the caption "The Demoralization of the Health Department."

The writer goes on to say: "Recent changes in the personnel of the Health Department, to its disadvantage, emphasize the fact that the introduction of politics into the administration of the one department which should be forever exempt from such contamination, has created an atmosphere which men who are not politicians and who have no other object in accepting office than to discharge its duties faithfully and skilfully cannot breath with comfort.

"Under President Murphy the office of the board became a rendezvous for small politicians, and what they wanted had more weight than anything recommended by the experts of the department staff. Such conditions lowered the standards of the department rapidly and forced the resignation of most of the self-respecting specialists of the staff. Under President Sexton the conditions are even less agreeable than before. Dr. Tracy's large experience and special qualifications helped to maintain the fiction that the board was what it used to be; but he has had enough, and his retirement makes a vacancy for some such luminous statistician as his predecessor, Dr. Nagle, who, not finding appreciation in his office as head of the Bureau of Municipal Statistics, probably wants to return to his old place in the Board of Health.

"The first business of a reform administration, when we secure it, will be to redeem the Health Department from its present deplorable demoralization and restore it to its original condition as the one division of the City Government which was free from the taint of Tammany manipulation. Perhaps it needs a memorable object lesson in what can happen to a city when its sanitary administration is controlled by professional politicians to emphasize the danger which may at any moment result from existing conditions."

That such an object lesson might result, is possible, but bad politicians working in health department jobs rarely "give themselves away," since the health of a community is in the hands of its physicians rather than in those of a Health Department. May the time soon come when the responsible head of a department, doing the active hygienic work of a city of over three

million inhabitants, will be other than one which the present system now allows; who, if reports are to be believed, has so much knowledge of hygienic science as not to know even the name of the most prominent hygienist that the medical world has ever known.

UNDER the smoke of the tunnel nuisance we fear that our Health Department is making much ado in order to hide other delinquencies of a more important character. That the tunnel is an unmitigated nuisance admits of no question, but that it is inimical to the health and welfare of the citizens of New York and, as such, a proper subject of inquiry by the Department is open to question. While we do not desire to enter a brief for the railroad, nor encourage such an unpleasant condition of affairs to continue, it seems to us more reasonable that the Health Department take up work of a much more practical character. We might suggest, as a single item only, a more efficient supervision of the Street Cleaning Department, as our streets still remain in a filthy and disgusting condition.

BIOLOGY AND COMFORT.

WE have referred before to the plans of the North Side Protective Association of Long Island for ridding a large tract of country of the mosquito—always a menace to comfort and sometimes to health. To carry out this scheme it was necessary, first of all, that a biological examination of the waters of the region should be made to determine just where the mosquitoes are breeding and what means will best serve in the treatment of each spot. This work is one that requires expert knowledge, for in the woodland ponds and by the side of the country brooks there are many "wrigglers" that have nothing to do with mosquitoes, but are easily mistaken for them. Moreover, only the biologist who understands the dependence of the mosquito larva upon its environment and its relation to other organisms can properly indicate the proper mode of treating any breeding-place—whether by filling, draining, petrolizing or stocking with fish and predaceous insects.

It was the good fortune of the Association to have in its territory a biological institute whose organization could be employed for its unusual but still biological needs. The magnitude of the task proposed by the Association appealed to the imagination of the workers at the Biological Laboratory at Cold Spring Harbor; they saw the mutual advantages that would accrue through coöperative work and so the union of forces took place—the North Side Protective Association providing the money and influence necessary to carry on the great mosquito campaign and the Cold Spring Harbor Laboratory providing the technical knowledge and the trained workers to study the biological aspect of the problem of extermination and to make recommendations as to the treatment of each breeding-place. What will remain will then be a series of engineering problems and board of health legislation. The Laboratory has been called upon also to organize the campaign of education by which it is hoped to stir up health boards, property owners and other residents to the danger of mosquitoes and to the need of doing away with local breeding-spots.

We feel sure that the Cold Spring Harbor Biological Laboratory will be amply repaid for the effort that it is putting forth to further the plans of the Association. It will benefit by the carrying out of the plans of the Association as an occupant of the territory from which it is proposed to eliminate the mosquito; but it will benefit also, in time at least, by its relation with a body of influential citizens who will recognize that the work of the biologist is not merely hair-splitting theorizing, but for the most part something more important than that, namely, the discovery of the general laws that govern living creatures. And in the future, as in the past, the discovery of these general laws will inure not merely to the comfort, but to the deepest welfare of the human race.

PROPHYLAXIS, DISINFECTION AND CONTAGIOUS DISEASES.

QUARANTINE and disinfection have hitherto been the chief means employed for the control of the spread of contagious disease. The value of these agents consists in the ability to prevent the contact of the healthy with the infected and the power to destroy the contagium vivum in the surroundings of those sick with contagious diseases. Notwithstanding active measures, however, such affections are common and it behooves us to ask whether the methods or quarantine now in vogue are efficient.

An opinion of their value may be gathered from a study of the results obtained by different methods of quarantine and disinfection when applied to an infectious disease the bacteriology of which is

firmly established. In one of our large municipalities, up to the year 1895, the method of disinfection in vogue after diphtheria had been the time-honored sulphur fumigation. Quarantine methods had been restricted to exclusion from school, which restriction was released when in the judgment of the attending physician the patient had recovered. At this time radically different methods of quarantine and disinfection for this disease were introduced. The system of disinfection comprised (1) the removal of all non-washable goods from the infected apartment and the subjection of the same to live steam; (2) the application of a proper carbolic or bichloride solution to all washable articles, walls, furniture, etc.; (3) in all tenement houses, in addition to school exclusion, the doors of the infected apartments were placarded with a sign denoting the existence of diphtheria within, which was not removed nor the patient released from quarantine until a culture from the throat had failed to show the diphtheria bacillus.

A great reduction in the number of cases was confidently expected. The following is the result, comparing two years under the old system with the same number under the new. In 1893 there were reported 1,672 cases; in 1894, 3,812 cases; in 1895, 4,216 cases, and in 1896, 4,912 cases. The population statistics are as follows: 1893, 996,715; 1894, 1,060,000; 1895, 1,091,646; 1896, 1,129,010. These figures show that the number of cases per 1,000 during these years was as follows: 1893, 1.6; 1894, 3.5; 1895, 3.9; 1896, 4.3. It may be said that the increase in the number of cases reported in 1894, 1895 and 1896 was in some measure due to the application of bacteriological methods to the diagnosis.

Previous to 1895 the methods of quarantine were notoriously lax and the inability of ordinary sulphur fumigation to destroy the diphtheria bacillus is well known, yet a very conservative opinion would be that the newer methods of disinfection and quarantine founded upon a scientific basis had at least failed to reduce the number of cases. A consideration of these figures shows the inability of advanced methods to improve materially the existing conditions, and forces us to the conclusion that if we are to be successful in this conflict other factors must be brought into play.

The production of artificial immunity as a prophylactic measure against bacterial diseases has recently been brought into prominence. The idea, of course, is not new as it has been utilized for over one hundred years with respect to smallpox. Within recent years inoculations have been used to prevent the spread of diphtheria, principally in institutions where large numbers of children are confined. The results obtained have been excellent and furnish much food for thought. Unfortunately the duration of the immunity thus produced is in most cases short, in contradistinction to that produced by vaccination, but still sufficiently long to meet the emergencies of a prevailing epidemic. The extensive employment of preventive inoculation against those diseases with respect to which the same is available cannot be too strongly urged at the present time, for it seems certain that in the future this is to be the most effective agent in the prophylaxis of contagious disease.

Seen from another point of view the singular conservatism of a formal procedure in the mode of quarantining certain diseases is of interest. If the investigations concerning yellow fever have pointed out without peradventure of a doubt the true mode of contagion in that disease, then the conventional modes of quarantine are worse than useless in that they impose heavy burdens on mercantile interests and are laughably inappropriate in fulfilling their function.

If there is no contagion in contact, nor can the disease be communicated by other agencies than by direct transmission by an animal, such as the mosquito, then it were wiser to adopt the standpoint of Dr. Havard who in a recent report says: "The duties of quarantine officers have also become singularly simplified. Since we may assume in practice that the infectious germs do not exist outside of man or mosquito, the disinfection of trunks and baggage on account of yellow fever is no longer justifiable. All that is required will be the examination of the non-immunes within five days immediately following their last exposure to infection, the danger of transmission being from their own persons, and in nowise from their clothing or baggage. Ships, like houses, are liable to harbor infected mosquitoes, and will continue to require fumigation."

Thus, again, is the principle reinforced, that prophylactic science must first know the factors involved in the mode of spread of a disease and not advocate a miscellaneous stenching of the air on every occasion, which is little more than a wild shaking of the arms with blindfolded eyes.

ECHOES AND NEWS.

NEW YORK.

Fire in Williamsburg Hospital.—On Saturday night, August 31, 1901, a fire broke out in the laundry of the Williamsburg Hospital located at the corner of Bedford Avenue and South Third Street, Borough of Brooklyn. It was extinguished by Dr. Dowd, the resident physician, and the nursing staff before material damage had been done.

Disease Among Bees.—State Agricultural Commissioner Wieting is giving special attention this year to the work of the bee-keepers in this State. Up to July 20th the four agents inspecting bees under the charge of the Department of Agriculture have examined 416 apiaries, embracing 13,393 colonies. Of this number 229 apiaries were found more or less infected with black or foul brood and 1,834 colonies were condemned to destruction, or to be treated with such remedies as have been found effective. Were it not for the carelessness and negligence on the part of so many bee-keepers the Department would feel that it could soon suppress the prevailing contagious diseases among bees in this State.

To Fight Malaria.—Physicians in public institutions, hospitals, and asylums will be required from now on to submit reports of all cases of malarial fever that come under their observation to the Board of Health. President Sexton said to-day that from all the reports he had received, malarial fever seemed to be a contagious disease. At a special meeting of the Board of Health, held Monday, the following resolutions were adopted:

"Whereas, Recent investigations have shown that malarial fever is an infectious disease, and can be largely prevented by the adoption of simple precautions, and

"Whereas, It is the desire of the Department of Health to prevent the extension of malarial fever, which now exists in some of the boroughs, to the other boroughs, and to restrict its prevalence in those boroughs where it already exists.

"Resolved, That all public institutions, hospitals, home aslyums, etc., be required to report all cases of malarial fever which come under their observation, giving the name, age, sex, occupation, and present address of the patient, and also information as to whether the attack is a primary infection or a relapse, and the address where the disease was probably contracted.

"Resolved, That all physicians in the city of New York be requested to furnish similar information in regard to patients suffering from malarial fever under their care.

"Resolved, That the circulars of information of the Department of Health regarding 'the causation and prevention of malarial fever' be mailed to the addresses in which malarial infection has apparently been contracted, and also to the addresses from which the cases are reported, when these are different.

"Resolved, That postal cards for furnishing the required data be prepared and forwarded to institutions and physicians for reporting the cases of malarial fever which come under their observation, as is done in other infectious diseases."

PHILADELPHIA.

Bequests to Charity.—By the will of the late Catherine Foley an estate of $15,500 is devised to charitable institutions. St. Joseph's, St. Mary's, and St. Agnes's Hospitals and the Consumptives' Home are among the beneficiaries.

Health Officers Urge Vaccination.—Members of the Bureau of Health claim that the increase in the number of cases of smallpox in this city need occasion no alarm, but they have issued a statement urgently requesting that all persons who have not been vaccinated within the last seven years be immediately vaccinated. Thirty-one new cases and two deaths were reported last week. One of the patients is a nurse from the Pennsylvania Hospital, she having contracated the disease from a patient who had been admitted to the wards.

Defense of the City by Health Officials.—The death-rate of this city, which was higher than that of any other northern city during 1900, is still the subject of much discussion. Colonel J. Lewis Good, Chief of the Bureau of Health, is absolutely certain that the fault is not in that department. He claims that, although the city has largely increased in size during the past twenty years, the sanitary conditions on the whole have improved. The year 1900 was also an unfortunate year for Philadelphia. Neither the house nor street drainage is considered inferior to that of other large cities. The showing thus far this year is much better than that of 1900, notwithstanding the unprecedented hot weather in July. The deaths from typhoid and scarlet fever were fewer in 1900 than in any year since 1880 with the exception of three or four.

Death of a Public Benefactor.—John D. Laukenan, President of the German Hospital and of the Mary J. Drexel Home, died August 30th, aged eighty-three years. The Mary J. Drexel Home was entirely supported by Mr. Laukenan and it is estimated that in this way and by benefactions to the German Hospital he expended nearly $2,000,000.

Cremation Statistics.—The increase in the number of cremations has been quite large during the past five years. Last year the number of bodies thus disposed of was 118 and thus far this year they number 62.

CHICAGO.

New Rules for Hospital Staff.—Warden Healy of the Cook County Hospital has issued a guide for physicians, internes and nurses. He believes in systematizing hospital work in such a manner that everything which

goes on from day to day can be known by him and be practically under his personal supervision. The new rules are as follows: (1) Transfers must be reported immediately to Warden by interne in charge of patient at the time the transfer is ordered by attending man. (2) Notice of emergency service and transfer cases should be immediately telephoned to attending surgeon and the particulars of the case given to party answering telephone. (3) Operation blanks must be filled out each day and filed in the Warden's office before nine o'clock the following morning. Duplicate operation blanks must be left with the Warden every Saturday before five o'clock P. M., for the use of the attending surgeon. (4) The junior surgeon must make the final preparation of patient before operation, both in and out of clinic. The senior surgeon should not be permitted to make such preparations, as it greatly endangers the aseptic result. (5) Instruments, needles, sponges, etc., at operations should be handled entirely by the nurses. (6) Senior internes are directed to comply with and enforce orders and instructions of attending surgeons and physicians as to prescribed treatment for patients assigned to their service, and report to the Warden any neglect of patients by nurses or junior internes. They will pay strict attention to rules governing the discharge of patients before twelve o'clock, noon, each week day. (7) Train cases will be taken to Dunning on Mondays, Wednesdays and Fridays. Ambulance cases Tuesdays and Saturdays. (8) Dunning cases should be reported to the Warden's office the night preceding their discharge.

Physical Tests for School-Teachers.—As a result of one year's trial of the plan requiring candidates for positions as teachers in the public schools to pass a physical examination before receiving certificates, there has been a marked improvement in the physical condition of the applicants. When the new order requiring physical tests was promulgated a year ago, it occasioned much apprehension among students in the public schools and in the Chicago Normal School who were ambitious to become teachers. It was feared that the additional requirements would bar many of the best students from the teaching profession in this country. Instead of discouraging the aspirants, however, it has stimulated them to take physical exercise, and to use greater care in diet. In one year the effect of the plan has been to arouse the young women to the necessity of care for their health. Knowing that this examination was coming, these girls have taken care of themselves. In ascertaining the fitness of women for the important work of molding the plastic minds of children, too little attention has been paid to their physical condition. It is unfortunate that necessity so often leads to physical impoverishment and deterioration in the women who prepare for the vocation of teaching. No profession makes such exacting demands upon physical vitality and nerve force, and it is a fact that patience, cheerfulness and forbearance, essential requisites in the ideal teacher, are not found in weak and impoverished bodies.

Return of Dr. Reynolds.—The Commissioner of Health of Chicago, Dr. Arthur R. Reynolds, has just returned from London, England, where he attended the Tuberculosis Congress, as well as the British Medical Association. Before the latter he delivered an address on typhoid fever, and also told something about the operation of the drainage canal and its effect upon the city water supply. He found that European physicians were familiar with what had been and is being done here, and especially so with the work with diphtheria and vaccine lymph.

Garbage Problem.—In London he investigated the methods of disposal of the city's waste, and found that it was an entirely different proposition from our local garbage problem. It was a rare thing to find in the waste there a vegetable or a piece of meat. He saw nothing but dust, paper, etc. The absence of animal and vegetable matter from the garbage is not due to municipal regulation, but to custom. It showed that the American people were much more improvident than the English. The watermelon rinds, the potatoes, the decaying apples and the spare ribs which litter the alleys here are utilized in London. The English are more interested in tuberculosis than are Americans. Tuberculosis is practically the only thing for which the English examine meat and milk, while in Chicago these articles are examined for a score of things.

Typhoid Fever.—Dr. John C. Neely, Assistant Chief Medical Inspector, recently made a report to the Department of Health, in which he says that of 67 cases of typhoid fever, 11 were found to have been undoubtedly contracted outside of the city, and two others were doubtful. This proportion agrees very closely with the results of previous investigations, namely, that about 18 per cent. of the fatal cases of typhoid in Chicago are contracted elsewhere, and are not due to local causes. Among 54 deaths referred to typhoid fever 9 were clearly caused by other diseases, and 6 others were doubtful. Including these doubtful 6, however, as among the typhoid deaths, the investigators attribute the following as causes of the disease: Bathing in the Lake, 2; eating raw vegetables, 2; drinking untreated hydrant water, 37; and for the remaining 4 out of the total 45 cases no cause is assigned. In this investigation particular attention was paid to the milk and ice supply. Three different milk dealers each furnished milk to two of the homes where deaths occurred, and one other to three of the homes. Ice was furnished to three families by two firms and to two families by another firm. So far as can be learned, no connection can be established between the homes supplied with milk and ice by these firms.

Inoculation Experiments.—No successful inoculations have yet been made to test Professor Koch's recent pronouncement that bovine tuberculosis is not transmissible to mankind. The

only culture of the bovine tubercle bacillus available in the city was so old as to prove inert, and a fresh culture is being made with which, when ready, the test will be renewed. Six volunteer subjects are ready for the test.

Resignation of the Sherman Hospital Advisory Board.—It is said that this Board, composed of Drs. James A. Rutledge, Wm. C. Bridge, and Leonard S. Taylor, has resigned. This is another step in the conflict which has been precipitated by the efforts of the Elgin Woman's Club to dominate the medical staff and conduct the hospital after its own methods.

Experiments of Food Values.—We are reliably informed that professors of Rush Medical College have on foot a series of experiments to determine the effects of different foods upon the mental power of individuals, and it is said that these experiments will be conducted upon students of the Chicago Hospital School, recently affiliated with Rush. The students of this school, which has a large number of defective children, will be divided into classes and restricted to a particular diet for a given period of time until the effects can be noted.

A Playful Suggestion to the Health Department, According to the Daily Press.—"Shall hogs be used as scavengers for Chicago streets?" is an issue which may be laid before the City Council at an early day. The Alderman of the Second ward will introduce an ordinance suggested by Mrs. C. T. Babcock. "I could hardly say," said Mrs. Babcock, "what suggested the idea to me, unless it is the filthy condition of the alleys. The plan I suggest can stand on its own merits. I propose that the city own and permit to run at large a sufficient number of hogs. These hogs should be branded in order to prevent theft and the brand should also show what wards they belong to. I suggest also that the hogs should be branded with the names of the Aldermen of the wards. As fast as the hogs get fat the city should sell them at the stock yards and replace them with hogs that are in poor condition, and in that way produce quite a revenue. But this is not all. I would supplement the city drove by private hogs. I would ask all who could afford to do so to buy hogs for the consumption of garbage."

It would seem from this that the scenes of "Our Mutual Friend," which so upset our readers of Dickens many years ago, might be again enacted in the streets of Chicago. Let us all hope it is a newspaper hoax.

GENERAL.

Health Board in Philippines.—Prof. Paul C. Freer of the general chemical laboratory of the University of Michigan has gone to the Philippines to take charge of a branch of the Department of Health there. He has received a year's leave of absence from the university.

Tri-State Medical Society of Alabama, Georgia and Tennessee.—The thirteenth annual meeting of the Tri-State Medical Society will be held at the Tulane, Nashville, Tuesday, Wednesday and Thursday, October 8, 9, and 10, 1901. The attendance promises to be large and an unusually attractive program will be presented. The railroads will give reduced rates. Those intending to read papers should send title to the Secretary, Dr. Frank Trestor Smith, Chattanooga.

Bequest to a Hospital.—By the will of Mrs. Elizabeth N. Thompson, widow of Dr. Austin W. Thompson, which has just been filed, the sum of $25,000 is given to the Cooley Dickinson Hospital in Northampton, Mass., the bequest to take effect upon the death of Mrs. Thompson's step-daughter.

Tuberculous Houses.—The danger of living in a house that harbors consumptives is illustrated by the fact that of 6,273 patients officially examined by the German Imperial Board of Health 2,177, or 34.7 per cent., belonged to families that included other victims of tuberculosis.

Echoes of the St. Paul Meeting.—In the *Münchener med. Wochenschrift* for August 20th, Dr. Carl Beck contributes an interesting letter describing the incidents of the trip to St. Paul of the special train from New York City.

A Royal Tuberculosis Commission Appointed.—King Edward has appointed a commission to investigate Prof. Koch's tuberculosis theory. The scope of the inquiry is officially said to be whether animal and human tuberculosis are identical; whether animals and humans can be reciprocally infected, and under what conditions, if at all, transmission to man occurs, and the means of combating it. The commissioners are Sir Michael Fostre, Secretary of the Royal Society; Dr. Sims Woodhead, professor of pathology, Cambridge University; Dr. Harris Cox Martin, Prof. J. McFadyean, and Prof. R. W. Boyce. The commission has been granted the fullest powers and facilities and the members have been urged to make a prompt report.

Army Vacancies for Assistant Surgeons.—The examination of applicants for appointment as assistant surgeon in the army has been resumed in Washington and San Francisco, and the army medical boards convened in those cities will remain in session as long as there are candidates to be examined. Seventy-six vacancies in the Medical Department still remain to be filled, and as it is desired by the military authorities that the Department be filled up to its full legal limit as early as practicable, all eligible applicants will be afforded opportunity for examination, and those found qualified will be commissioned at an early date.

Outside Lepers Not Desired in Louisiana.—Applications have been made from St. Louis to Governor Head and the Louisiana Leper Commission for the admission of Dong Gong,

a laundryman of that city, recently discovered to be a leper. The St. Louis authorities declare that there is no hospital or home in Missouri, nor indeed any other in the country save in Louisiana, to which lepers can be sent, and it was proposed that Louisiana accept the Chinaman. Albert G. Phelps, President of the Board of Control of the Lepers' Home, said that the offer could not be accepted. The board frequently received propositions of this kind from various States but had declined them all. "The Leper Home of Louisiana," he said, "is supported by the taxpayers of the State and it would be unfair to allow the home to be a refuge for the afflicted of other States. About a year ago three lepers were discovered in New York. There was no hospital in that State to which they could be sent and the poor creatures became a burden on the health officers. A rich woman of New York offered to support the three lepers for life if they could be placed in the Louisiana Leper Home. Admittance was refused. The care of Dong Gong will be laid before Governor Head who will dispose of the application. I am inclined to believe that the Governor will take the same view of the matter as I do."

Journal of Medical Research.—Under this title the *Journal of the Boston Society of Medical Sciences* will be continued under the editorial charge of Dr. Harold C. Ernst. The journal is devoted to the prompt publication of original investigations in medicine; will be published as rapidly as material accumulates, and is the direct continuation of the *Journal of the Boston Society of Medical Sciences.* The expansion of the latter journal is the result of a demand that it should cover a wider field of medical activity than its name would allow. The journal is supported by the American Association of Pathologists and Bacteriologists, the Boston Society of Medical Sciences, and other sources of strength. The first number contains most of the papers read at the annual meeting of the American Association of Pathologists and Bacteriologists in April, 1901. Succeeding numbers will be published as material accumulates, each containing fifty pages at least. Volumes will consist of about five hundred pages, and when one is completed another will be begun. The journal has been started because there appeared to be wide-spread demand for a place in which the results of medical investigation could be given prompt publication, and the support already promised seems to make its success a certainty.

Quietus to Dr. Caldas' Protective Serum.—Major Havard, Chief Surgeon, says that, as the Yellow Fever Commission regards the experiments with the Caldas serum as demonstrations of its uselessness, the commission has definitely severed connection with the Brazilian expert and will not supervise any further experiments conducted by him.

"Dr. Caldas has all along maintained that he found the yellow fever germ in the intestines," remarked Major Havard to-day, "whereas all the experiments conducted here prove that the germ of the disease is in the blood, people having been directly inoculated by blood infection from a person suffering with yellow fever."

Major Gorgas, Chief Sanitary Officer, made the following statement: "Some confusion has arisen regarding the precise position of the Sanitary Department in connection with the yellow fever experiments. In March of this year the Sanitary Department established an inoculation station at Las Animas for the purpose of inoculating non-immunes—that is to say, giving them yellow fever in order to make them immune. This was not an experimental station, and is not such, the sole object being to effect immunization.

"The Sanitary Department has nothing to do with the recent experiments conducted by the Yellow Fever Commission nor with those conducted by the officials sent by the War Department to investigate the origin and propagation of yellow fever, although it did supply the Carroll commission with mosquitoes.

"The Sanitary Department stands ready to immunize any one who desires to undergo the treatment after the risk has been fully explained. It accepts the work of Surgeon-Major Reed and his colleagues of the Army Commission as final, and does not desire to make further experiments in this direction. No amount of evidence could make more positive the conclusion that yellow fever can be conveyed by the mosquito. The person who submits to mosquito infection, however, stands a better chance of recovery than one who contracts the disease accidentally, as the former has care from the beginning."

The Ant as a Surgeon.—The scriptural advice of studying the ways of the ant in order to be wise seems to be followed among certain Indian tribes. We learn from the *Sun* that from a late adventure among the Passamaquoddy Indians who live on the borders of New Brunswick, Dr. Robert Loud of Boston, who has been hunting in the Maine woods for the past month, believes that the aboriginal inhabitants of America are possessed of a wide knowledge of medicine and surgery, using some methods which may be adopted into general practice with benefit to the public. Late in August while camping on the Micmac River he had the misfortune to cut a deep gash in his leg, which bled copiously and caused him much pain and trouble until he was so fortunate as to receive a visit from Chief Oku, a great medicine man of the tribe, whose fame is known among all the Indians of the Eastern States. The cut was badly inflamed when Oku arrived, but he at once reduced the swelling by bathing his leg with a decoction of elm bark and tying up the wound in fresh clay from a brook. When Dr. Loud

asked the Indian to take some stitches in the cut Oku replied: "Heem no good. T'read heem mak' heem swell up, so be sore. See w'at Oku, heem do."

The chief went to a clearing and returned with a dozen large and very lively brown ants. Then, grasping the two sides of the cut between his thumb and finger and pinching them together, he caused an ant to bite at the edge, putting his jaws through both sides of the cut and closing them as firmly as if they had been in a vise. When he had applied eight ants in this manner he cooly pulled off their bodies, leaving nothing but their heads attached.

"Now heem bin stay there 'til heem sore geet well," said Oku, winding a bandage of soft cloth around the leg and fastening it as neatly as a trained nurse could have done. "In nine day—twelve day, maybe, take off cloth; find heem all well."

Dr. Loud followed his instructions and came out cured. The heads of the ants had held on as firmly as pinchers, and although the insects were long dead, it required considerable force to pull away the locked jaws. Dr. Loud also believes that the formic acid which the ants secrete from their mandibles has antiseptic qualities which are unknown to medicine and proposes to make a few experiments along this line on his return to Boston.

A Biography of Dr. S. P. Moore.—As a result of the Memphis Confederate reunion, a biography has been prepared from records of first instance of one of the most important official leaders of the Southern cause, the Surgeon-General of the Confederate States, Dr. Samuel Preston Moore. This appears in a paper in the *Southern Practitioner*, by Dr. Samuel E. Lewis of Washington, an assistant surgeon in the Confederate service and First Vice-President of the Association of Medical Officers of the Army and Navy of the Confederate States: Dr. Moore was a lineal descendant of Dr. Mordecai Moore, who came to this country as physician to Lord Baltimore. He was connected also with the family of the first Deputy-Governor of Pennsylvania under William Penn, Thomas Lloyd. He was born at Charlestown, S. C., in 1813, and became an assistant surgeon in the United States Army in 1835. He became surgeon with the rank of major fourteen years later. During the dozen years between this time and his resignation from the army he served in many parts of the country, from Oregon to the Gulf, from the Texan frontier to Governor's Island in New York harbor. He accompanied the advance guard of troops that went across the plains ahead of the great emigration of 1840. Prior to this he had been for two years during the Mexican War on the Mexican side of the Rio Grande. For five years before the early part of 1860 he was at the Military Academy at West Point, and in the spring of that year he was sent to New Orleans. Having devoted himself to the service and refrained from political concerns and attachments his biographer says, he found himself at the approach of the great struggle much distressed to determine where his duty lay, his mind being as unsettled as that of the then Col. Robert E. Lee. With the secession of his State he decided to quit the army and he resigned his commission. He went to Little Rock, Ark., in retirement, with some intention of making that place his home."

But Dr. Lewis remarks that the times were not conducive of repose, "and trained officers were urgently required in all departments of the army and navy. Therefore, in response to the persistent appeals of his dearest friends, and from a high sense of duty, he concluded to answer the call made upon him as an officer of recognized merit by President Davis and to accept appointments as the surgeon-general in June, 1861."

The Confederate surgeon-general's records were burned in the fire of the night of the evacuation of Richmond, April 2, 1865, and Dr. Moore's private papers, which had been removed from his residence to a place of supposed safety, were destroyed in a part of the city which was afterward burned. So it may be seen why the material for the biography had to be gleaned through correspondence.

Dr. Moore immediately upon his appointment as surgeon-general set about organizing his department, a task whose difficulty was enhanced by the fact that most of the Southern medical men had had experience only in the home practice of civil life and by the action of the United States Government in declaring all medical goods and appliances contraband of war. This action and the blockade of Southern ports threw the medical department of the Southern military service very much upon its own resources.

"The medical department was constrained to seek in its own forests and fields," Dr. Lewis says, "such substitutes as could be found for the more reliable medicines and to build and establish laboratories for converting them into pharmaceutical preparations in large quantities and arrange them in convenient packages for wide distribution and use; to improvise and manufacture by unskilled artisans and the scanty means at hand, such surgical instruments and appliances as their necessity required and ingenuity could invent, which could not be procured through the so-called underground railroad of the time."

The 1,000 surgeons and 2,000 assistant surgeons in the Confederate army treated, according to estimate, 3,000,000 cases of wounds and diseases, Dr. Lewis says. The estimates place the number of Federal prisoners captured by the Confederates and held in Southern prisons at 270,000, and the number of Confederate prisoners taken by the Federal armies at 220,000. Yet, Dr. Lewis says, the number of deaths among the former was 22,570, while the number among the latter was 26,436, the percentage of deaths in the

Confederate prisons being about 8.3 to a percentage of 12 in the Federal prisons. Dr. Moore instigated the formation in 1863 of the Association of Army and Navy Surgeons of the Confederate States and he established by his encouragement the *Confederate States Medical and Surgical Journal*, which was published during the war.

Obituary.—Dr. William H. Bowlsby died at his home, 170 Van Siclen Avenue, Brooklyn, on Monday. He was born at Ballston Spa., N. Y., in 1828. He moved to Brooklyn in 1873 and lived in East New York. He was a member of the Knights of Pythias for many years and when the uniform rank was organized in 1878 was appointed surgeon of the Brooklyn division. In 1880 he was appointed medical examiner of the insurance department of the order, which place he occupied to the time of his death. In 1889 he was appointed surgeon-general with the rank of brigadier and was commissioned by the Supreme Lodge as senior advisory surgeon-general of the uniform rank for life. In 1898 he offered his services to the Government as a surgeon in the war. He is survived by a widow and three children.

Dr. George H. Day died on Tuesday at Iona Island, near Peekskill. Dr. Day was born in Maine in 1833. He was for several years connected with the New York Hotel, New York. For years he practised medicine in Monroe, Orange County, N. Y.

Dr. J. D. Kielty died suddenly August 28th of heart failure. He was born in Fitchburg, Mass., on June 17, 1858, was graduated from the College of Physicians and Surgeons of Boston and Bellevue Medical College of New York. He was city physician from 1887 to 1893, medical examiner from 1892 to 1899, and a member of the Pension Examining Board during President Cleveland's first term.

Dr. George William Wells, since 1892 Medical Director of the Manhattan Life Insurance Company, died at his home at Richmond Hill, L. I., Monday morning of a nervous disorder contracted in the course of his official duties.

Dr. Wells was born in Tyrone, Steuben County, N. Y., June 5, 1841, and traced his lineage back to a family who came from Normandy to England about 1068.

After studying at Farmer's Hall Academy at Goshen, N. Y., Dr. Wells prepared for a college course under the tutelage of the Rev. Daniel Wells, of that town, and was graduated from Princeton in 1865. He then commenced the study of medicine in the office of Dr. Sayre, and was graduated from the Bellevue Medical College in 1868. He attended the post-graduate lectures in the Long Island College Hospital, where he was later made assistant professor of diseases of the nose and throat under Prof. French. He then became physician to the Outdoor Poor Department of the Bellevue Hospital Medical College for diseases of the chest. He was also surgeon of the old Seamen's Retreat Hospital on Staten Island, and practised for ten years as a physician in this city, and for three years in Brooklyn, and then entered actively upon the specialty in which he was best known, as medical examiner at the home office of the Manhattan Life Insurance Company, in New York.

Dr. Wells was also editor of the *Medical Examiner and Practitioner*, and a recognized authority on problems of life insurance. It was largely his foresight that led the insurance companies to appreciate more fully how much their success was dependent upon accurate physical diagnoses of those who applied for policies, he having been among the first to agitate the selection of life risks. Some of his writings on the effect of alcohol, narcotics, and tobacco have been recognized as medical classics.

Dr. Wells was a member of the American Medical Association, for a number of years Secretary of the Yonkers Medical Society, a member of the New York County Medical Association, and the Kings County Medical Society, for ten years Secretary of the Medico-Legal Society, and he had also been Secretary of the Society of Medical Jurisprudence of State Medicine.

CORRESPONDENCE.

THE CANTEEN AND THE AMERICAN MEDICAL ASSOCIATION.

To the Editor of the MEDICAL NEWS:

DEAR SIR: I am glad that Dr. Wilson took the trouble to notice the letter I wrote you some time ago in regard to the Army Canteen.

When I wrote the communication I was under the impression that the procanteen resolution passed by the American Medical Association at St. Paul voiced the sentiment of the Association, but I find that many reputable physicians, among whom are Dr. Crothers and Dr. H. D. Didama, Dean of the College of Medicine of Syracuse University, deny this and state that instead of being the voice of the majority it was the voice of a very small minority of the Association.

When the canteen matter came before this body in full session, it was tabled by a vote stated as two to one. It was then put into the hands of a committee with the general understanding that it was not to be acted on at that session from the fact that the time had been too limited to judge whether doing away with the canteen was an evil or not. Those in favor of the canteen, however, were not willing to let the matter drop, but managed, near the close of the meeting of the Association, when there were but few members present, to have a vote taken on the resolution. The chairman put it to vote. The ayes were called for but not the noes. He declared the resolution passed. If this be a correct rendering of the matter it puts an entirely new face on the whole transaction.

The press immediately throughout the land gave out that this action of the *minority* represented the sentiments of the Association; so it

is generally understood to this day. So far as I am conversant there has not appeared any protest to this action. The Association is supposed to represent the rank and file of the medical profession and why such a representative body would allow without protest a few medical men to pass a measure, as its own, that had been tabooed by Congress and the Christian sentiment of the country, is strange indeed.

Now let us look at this resolution that is supposed to represent the wishes of the medical profession. It reads thus: "*Resolved* that this body deplores the action of Congress in abolishing the army post exchange, or canteen, and in the interest of *discipline, morality* and *sanitation,* recommends its reëstablishment at the earliest date." Here are three reasons why the canteen should have a place in the army. First, on account of discipline. Of all reasons this seems the most singular, the idea being that alcoholic beverages make the soldiers more tractable than abstinence. The getters-up of this resolution were certainly not posted in regard to the doings of the soldiers in and about Manila while under the influence of strong drink. That was during the reign of the canteen. To lift the veil, here is an extract from an article written by Capt. J. M. Moore. He says: "Men (that is, soldiers) would come to Manila, get drunk, assault defenceless women, abuse peaceful natives, disgrace the whole army and tneir country, etc." An English lawyer, a Mr. Sheriden, who was there at the same time, says: "It was surprising to see the American soldiers patrolling the streets (of Manila) in an intoxicated condition, acting as police officials, for which they were utterly incompetent." Also, "One thing is certain, the soldiers were often in a condition that rendered them entirely irresponsible." These quotations could be added to indefinitely, but this will suffice to show that in place of the canteen being a promotion of discipline it was just the reverse. Nearly all the court-martials were laid to strong drink. Our Commander-in-Chief, General Miles, has no good word for the canteen. He says, "I don't believe the present law should be repealed until it has been given a fair trial." Then look at the testimony of the commanders of the British army. Lord Wolseley, Earl Roberts and Lord Kitchener claim that instead of intoxicants promoting discipline, they do just the opposite and should be banished, total abstinence as far as possible being enjoined.

As to the second reason for reinstatement, morality, those in favor of the canteen claim that it should be reinstated because of its moral influence in keeping the soldiers away from base resorts. This idea has been exploded from time to time as a delusion. I have made an extract from a letter of an officer of forty years' service, *viz.,* Brigadier-General A. S. Daggett (retired). He says, "The canteen stands as a constant invitation to the total abstainer to drink, as a temptation to the moderate drinker to drink more, and as a convenience to the drunkard to load up on beer when he has not the means to obtain anything stronger."

This incident might be subjoined here to show that the word 'morality" has no place when looking at the effects of the canteen. During the Spanish-American war, seventeen young men (all abstainers) from a town in Illinois enlisted in the army. In process of time one was sent back a corpse; the other sixteen came back when their time had expired, all with the drink habit firmly fixed. In other words, they were graduates of the army saloon called the canteen. Is it any wonder that the motherhood backed by the Christian sentiment of the country would protest against this method of making moral wrecks of their sons while in the country's service and after being ground out in the Government morality mill, the canteen, turned loose as a menace to society?

Lastly, that the sanitary condition of the army required the canteen—in other words, that the imbibing of beer was conducive to health. This surely will not bear investigation. There is not a life insurance company of note but asks the applicant, Are you a user of intoxicants? and grades him according to the answer to this question. The idea, however, that any form of alcoholic stimulants is conducive to health is absurd. But I will let another of more ability speak on this question. Dr. N. S. Davis Senn says, "Alcohol as it exists in fermented and distilled liquors is a positive protoplasmic poison," etc. Again he says, "As concerns danger to human life every intelligent reader of the public press knows that the ordinary use of alcoholic liquors by persons claiming to be in health is the direct cause of more suicides, homicides and murders every month than are produced by all the other poisons known to toxicologists in a year." As beer is the national drink in Germany, let us have a little testimony from there. Baron von Liebig says, "It is now possible to demonstrate with mathematical certainty that so far as enriching the blood is concerned, the flour that will lie on the point of a knife affords more nourishment than four measures of the best Bavarian beer." Dr. Binz, professor in the University of Bonn, says, "This flooding the stomach and brain with beer, this daily drinking for hours at a stretch, as is customary among great numbers of the lower and middle classes, I regard as a national evil, whether considered from the hygienic, economic or intellectual point of view. The habitual beer drinker is just as much an alcoholic as the habitual schnapps drinker." A long list of German physicians of note could be added to the list of opposers of beer drinking. Bismarck, the great German statesman, said, "Beer makes people stupid, lazy and incapable."

Of course many will say that I am off the track in classifying the canteen as a saloon. That instead of a saloon it is a place of concourse where soldiers could meet and have a social time, where a library was available to get literature to read, etc. Investigation that has been made from time

to time, however, and has revealed the fact that the post exchange is nothing more or less than a beer saloon with this added feature, that there is a bribe held out to the abstainer that the profits on the sale of beer would be set apart for improved food supply. There was the same drinking, carousing and drunkenness that characterized the ordinary saloon. To show how well this bribe or bait has succeeded, one of the procanteeners stated at St. Paul that there were only five per cent. of the army abstainers, thus making 95 per cent. drinkers. Such a showing, although I think far from the facts, gives the strongest argument in favor of doing away with the Government grog-shop, because not nearly all the soldiers will make the army their home but will when their time expires come back to civil life. Then who would say that these graduates of the post exchange would be a benefit to society?

D. I. MCMILLAN.

Sunbeam, Illinois, August 24, 1901.

AN INTERESTING MEDICO-LEGAL POISONING CASE.

To the Editor of the MEDICAL NEWS:

DEAR SIR: In September, 1900, a middle-aged man, in reasonabl good health and with no apparent motive or suspected tendency toward suicide, accidentally took a swallow or more of insect poison (corrosive sublimate in grain alcohol, an ounce to the pint) supposing he was getting whiskey, and not knowing the difference till the poison burnt his lips. The family at once gave him mustard-water and followed as fast as they could ma make them ready with the whites of egg and milk. Free emesis occurred and continued more or less at intervals for two or three hours, during which time I saw him. The vomiting threw the caustic material into the naso pharynx and through the nose, and made an eschar here as well as in the mouth and throat.

The man became almost immediately stupid, apathetic, somewhat incoherent, and manifested an unaccountable aversion or petulance toward his wife and child with whom he had always been especially affectionate.

Noticing that the condition two days after the accident was not unlike that of a severe burn, both in the local eschar and in the general condition of the patient, I made some explanation to the family of the mania or frenzy occasionally following severe burns, and recommended a careful watch over the patient. Following this suggestion the family enforced a reasonable system of precaution.

The third was the only day the catheter was required, but the general condition continued practically unchanged. On the fifth day the slough was beginning to separate a little on the anterior pillars of the fauces and on the sixth the separation was a little further advanced, but no part of slough was yet fully loosened. During this day, while the nurse was temporarily absent from the room, the patient wandered out, a distance of probably twenty feet, to the porch and shot himself in the right temple, being seemingly dead when the nurse got back to him. It was not known how or where or when he had got the revolver—there were always several about the house, but this one had not been seen recently.

There was life insurance in three fraternities, three of which paid without question, but the fourth refused to pay in full on the ground that the death had been a suicide. In the action to recover from the insurance company—Margaret A. Barber vs. The Knights and Ladies of Security—the jury found a general verdict for the plaintiff. They also returned answers to several special questions in which the fact of chief interest is their finding that the "proximate cause" of the death was the accidental dose of sublimate solution. Their findings were made, of course, under proper instructions and definitions by the Court.

H. L. CHAMBERS, M.D.,

Lecompton, Kansas, August 20, 1901.

PARIS LETTER.

(From Our Special Correspondent.)

PARIS, August 1, 1901.

DR. LAVERAN MADE A MEMBER OF THE INSTITUTE—SANATORIUM FOR LEPROUS PATIENTS—LUMBAR PUNCTURE—NOTIFICATION OF VENEREAL DISEASES — COCAINE INJECTIONS — NOVEL METHOD OF CONSULTATION—BERLIN CONGRESS OF SURGERY.

THE death of Dr. Potain, the celebrated heart specialist, having created a vacancy in the Academy of Sciences, at a recent meeting his successor was chosen. The votes were cast three times as a first ballot gave no result. Dr. Laveran, an army surgeon, professor at the Val-de-Grace, and known for his works on intermittent fever, was elected by 40 votes against 26 given to Professor Richet, the physiologist.

There has been some talk recently in France of founding a sanatorium for leprous patients and a small place called Ronceux, in the Vosges, was chosen. The inhabitants of that part of the country have objected to this though the chances of infection are really small. Several cases of leprosy are to be seen at the St. Louis Hospital in Paris, and there exist down south near the Mediterranean several small foci of leprosy, which has however no tendency to spread. Sanatoria of this nature exist already in different parts of Europe. There is one at Bergen in Norway and the patients are allowed to go about outside the sanatorium. There is another one at Christiania in Sweden, where there are some cases of leprosy. At a discussion held at the Academy of Medicine it was decided to send the following answer to the Minister of the Interior, who wished to have the opinion of that society on the subject. A private sanatorium would be found useful if placed near a region where lepers are found. If this

institution were well supervised by the Government, and its interior working based on the highest sanitary conditions there could be no danger offered to the public health. On the other hand, as such supervision cannot be carried out, it would be well that a report be made out to that effect, showing how this would be best managed.

Still another indication for lumbar puncture has been found by Dr. Tuffier, and this is fracture of the skull. The rachidian fluid is rose-colored in such cases, and blood corpuscles can be found with the aid of the microscope.

A recent decree in Westphalia in Germany declares that physicians should notify the authorities of the existence of venereal diseases. Though this decree has been established in a most praiseworthy spirit, it is diametrically opposed to professional secrecy, and it hardly to be supposed that patients will care to have the nature of their disease confided to every body.

The use of intrarachidian injections as a curative agent is still as much as ever to the fore. Dr. Pierre Marie and Guillain have been treating a case of lumbago in this manner. Only five milligrams were used and eight minutes after the injection the pain had disappeared, the patient was able to walk a part of the day. They tried it also in a case of scapulalgia with no success whatever, and the result was the same with one of subacute rheumatism of the lumbar region. Professor Deboe said in connection with this treatment that lumbar puncture was too delicate an operation to be used as a routine treatment of lumbago. He had, however, found it efficacious in certain forms of gastralgia due to tabes. In one case, where the patient suffered from acromegalia, a puncture was made and thirty cubic centimeters of fluid were evacuated. The pain ceased at once. In another the patient, who was tabetic, was punctured during one of his paroxysms of pain, and was relieved immediately. A radical cure can not however be expected.

In a Paris newspaper the following method of having a consultation with one's doctor was described. A physician, living near the Place de l'Etoile, was called up by his patient, whose child was ill and coughing, and told that croup was feared. The doctor asked a few details as to the illness, and then told the mother to put the child before the telephone and to make him cough. After listening a while the physician said it was only a simple cough and added there was no need of his coming.

Dr. Jayle, the assistant of Professor Pozzi, has just written a letter on his visit to Berlin to attend the Congress of Surgery and his impressions are interesting for various reasons. He said he found that he was no longer impressed as he was the first time; greater progress had been made in Paris whereas in Germany it seemed that surgery was more *in statu quo*. He remembered a few words said several years ago by a Berlin assistant, who remarked that one should go to Paris to see how one should not do, and it could be truly said that this was no longer so; what is more, if it were not that he did not believe in disparaging others, he might return the compliment as to certain things. One thing to be envied, however, was the faculty the Germans have for organizing different methods of instruction; their vacation courses, for instance, should be imitated. Speaking of the Congress, Dr. Jayle was struck by the fact that no operations were performed in Berlin while the Congress was in session, and also that an exhibition of surgical instruments and surgical appliances was established in the building in which the Congress was held. The different instrument-makers are thus stimulated to do better. Dr. Jayle also made a few remarks about the Berlin hospitals. No new ones have been constructed, but the new operating-room at the Moabit is much larger than the old one; at the Charité, the kitchen is a marvel of cleanliness and much better arranged than those of Boucicaut or Trousseau, and yet, Dr. Jayle adds, in culinary matters it is not at Berlin that one should go for instruction. The new Pathological Institute of Virchow is very well planned and quite a number of specimens are labeled in Virchow's handwriting. A new hospital has been constructed at Lichterfelde, near Berlin. So far the surgical and medical wards are the only ones that are complete, but sufficient ground has been bought to erect a hospital containing 400 beds. This hospital is to be used for patients from Berlin as well as from the neighboring localities.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

THE BACTERIOLOGY OF PUERPERAL FEVER—PREGNANCY AND TUBERCULOSIS.

E. WINTERNITZ (Tübingen), at the Ninth Congress of German Gynecologists, at Giessen, May 31, 1901, read a paper on the bacteriological considerations and their bearing upon the general therapeutic management of puerperal fever. He said that there are many disturbances of temperature during the puerperium which can not be clinically accounted for with any degree of accuracy as to their cause. In such cases it is very probable that the bacteriologist can by studying the germs contained in the pus or in the lochia at least furnish a satisfactory guide to the etiological factors at the base of such fevers as are accounted for caked breasts, phlebitis and the other commoner origins of a rise of temperature after childbirth. In his clinic at Tübingen he has made a series of observations and has found that out of 141 cases in which later true clinical puerperal fever developed there was no example in which the bacteriological features of the lochia were negative. On the contrary all were so unmistakably positive as to render a diagnosis of threatening puerperal fever in its true clinical form very easy and certain. Furthermore it was fully established that of all the febrile disturbances fully two-thirds were proved to be of the

puerperal type by this bacteriological investigation and the remainder to be due to the simpler non-infectious varieties. A comparison with the reported results of other experimenters in the same field shows their totals to be in the ratio of 63 to 37 per cent. respectively—that, is, entirely confirmatory of the author's statistics. Of the well-known germs, the streptococcus is by far the most common it being found in 63 per cent. of all the cases. Next in line come the mixed infections wherein are found the saprophytic bacteria and the anaerobic bacteria, both not yet very well known, associated with the more purely pyogenic varieties. Prominent in such cases are the staphylococcus and the gonococcus and sometimes the bacterium coli commune. At the Tübingen clinic the therapeutic management is the following. So soon as a bacteriological examination has shown that pyogenic germs are present intra-uterine douches of any of the familiar and reliable disinfectants should be given with the hope of destroying at their very focus the germs and their products. It is a significant fact that they have never yet been able to prove a bacteriological annihilation of the germs. Clinically, however, these douches produce a cleansing and are followed by a decrease of the fever in a manner to show that they certainly have considerable value. Perhaps in the future some germicide will be discovered which will be focally totally destructive to the germs. At any rate it seems certain that no single step is so valuable as a bacteriological examination of the lochia as a foundation of the future handling of the case.

Kaminer, at the Society for International Medicine at Berlin, June 3, 1901, read a paper on the subject of pregnancy, childbirth, and tuberculosis and their mutual influence. His points were that, while the gynecologists were teaching the destructive and unfortunate results of abortion, the physicians were learning the conditions under which induced abortion is not only justifiable but positively indicated as a therapeutic measure. Chief among these may be mentioned the various organic diseases of the heart and tuberculosis, especially pulmonary tuberculosis. The gynecologist desires to limit the measure purely to such cases as are diseased purely in virtue of the pregnancy. Maragliano has gone so far as to claim that every pregnant woman should be deprived of her fruit as soon as any pulmonary focus is discovered. In work in this field at the Senator Clinic and the Clinic for Tuberculosis Kaminer has followed out fifty cases of tuberculosis complicated with pregnancy and found that thirty-three suffered greatly in virtue of their infection both during the gestation itself and at the labor also. The other seventeen women apparently underwent no inconvenience from the complication. Along with the ordinary inconviences of pregnancy (vomiting, lowered nutrition, impeded circulation) there appear in his opinion the deleterious factors of the puerperium much augmented, which he seeks to explain by uterine absorption. Whether in the better classes of society these conditions are wholly ameliorated he is not able to determine definitely. On the other hand, however, he is convinced that an interruption of gestation is the one method of treating these subjects rationally. Of the various means at hand for such a purpose, artificial abortion is the best. With the aid of skilled gynecologists he has carried out this therapeusis eighteen times and found that in twelve of the patients he was able to control and then bring their tuberculosis to a standstill. He further thinks induced abortion to be indicated whenever the first signs of tuberculosis appear during any pregnancy and whenever any symptoms of a lighting-up of an already quiescent process are evident. It is also an important point to consider how to prevent impregnation among the tuberculous.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Section on Medicine.

Stated Meeting, Held May 21, 1901.

E. Franklin Smith, M.D., Chairman.

Anomalous Rheumatism.—Dr. Brill presented a case that had been under treatment at Mt. Sinai Hospital with peculiar rheumatic symptoms. The family history was negative and there was no rheumatism in the patient's past personal history. There had been slight jaundice. The patient denied gonorrhea and syphilis. The joints had not been swollen, but there had been some fever and soreness. There had been a peculiar eruption on the body for several weeks. When the patient came into the hospital the temperature was 100° F. and rose in the afternoon to 103° F. The pulse-rate corresponded to the temperature and its variations. The eruption on the body resembled erythema multiforme. During the course of a day or two in the hospital the patient developed some signs of pleurisy on the right side; a little bit later there were complaints of tenderness over both tibiæ. Swelling took place at the sternoclavicular junction and considerable tenderness was also manifest there. The character of the skin eruption changed and papules were noticed. These resembled erythema nodosum. The blood-count showed that there was distinct leucocytosis, sixteen to eighteen thousand leucocytes were found in a cubic millimeter. Imperfect ankylosis of the fingers occurred as the result of involvement of the joints of the fingers.

Treatment.—Ordinary rheumatic treatment failed to influence the course of the disease. The salicylates seemed to influence the temperature course, but symptoms that seemed to be rheumatic manifestations continued to occur. Blood-cultures were taken and in one out of five of them, with very careful precau-

tions taken to avoid any chance contamination from the skin surface, streptococci were found to exist in the blood. Notwithstanding careful treatment in the hospital, the patient continued to suffer from intermittent fever that sometimes reached 105° F. in height and then descended to normal, only to recur after a day or two. No purulent condition could be found that might explain this seemingly septic temperature. Careful examinations were made of the exterior of the body and of the internal parts that might possibly contain an abscess. After the discovery of the streptococcus in the blood, antistreptococcic serum was administered. Almost immediately afterward the symptoms began to abate. After the injections had been continued for some days, the patient's temperature remained normal and further rheumatic symptoms failed to occur. The patient, who is now in reasonably good health, was presented to the section.

Bacteriology of This Case.—Dr. Libman said that in cultures taken from the blood of this patient he had found a streptococcus. Some time ago Wassermann of Berlin reported that he had found what seemed to be an attenuated streptococcus in the blood of a rheumatic patient under treatment at the Institute for Infectious Diseases, Koch's department of the Charité Hospital at Berlin. This streptococcus grew well only on a special peptone solution. English observers reported only a short time ago that they had found a streptococcus in the blood of a rheumatic patient. The streptococcus found by Libman grew on a solution of serum agar with glucose. This streptococcus when inoculated into the guinea-pig failed to produce any effect. Rabbits inoculated with it were seen to limp after a few days. They recovered completely from it, however.

Cultural Characteristics.—The streptococcus found by Libman grows very well on Wassermann's medium, but is not very tenacious of life when grown artificially. After several generations it failed to be successfully cultivated. The fact that it grows on Wassermann's medium does not stamp it as assuredly of the same nature as the streptococcus described by Wassermann. Dr. Libman has found that practically all streptococci grow well on Wassermann's medium. The streptococcus under observation at Mt. Sinai seemed to resemble the one described by Wassermann in many ways and is of interest because found in a case of rheumatism in which the constitutional invasion and the manifold symptoms pointed very clearly to the fact that the microbe causing the symptoms must be in the blood.

Unusual Human Parasite.—Dr. James J. Walsh presented a specimen of the larval form of tenebrio obscurus. A patient reported that the worm had come from her. As it was a meal-worm and represented the larval stage of a beetle, this scarcely seemed possible. The specimen was forwarded to the entomological department at Washington, which replied that in a certain number of reported cases, though they were very rare, tenebrio obscurus had been found in human beings and occasionally caused symptoms. In this case the patient was using gluten suppositories. It seems not improbable that some of these were exposed and that the beetle laid its ova in them before their use. The heat and moisture of the rectum provided favorable conditions for the development of the larva which eventually found its way out through the anus.

Human Myasis.—Dr. Walsh said that, while scarcely any mention is made of it in the textbooks on medicine, a certain number of winged insects do occur in the larval stages in human beings. There are three or four varieties of flies, the larvæ of which have been expelled from the stomach. Usually the vomiting which causes their expulsion is set up by the irritation of the presence of these parasites. The insects lay their ova in milk or in cheese, or in cooked vegetables that are allowed to stand over, and these are taken into the stomach and there develop into the larvæ of the fly. Occasionally the parasites are passed either in the worm stage, or when already possessed of wings and, as a rule, they do not give rise to any very serious symptoms.

Human Cantharisasis.—In a certain number of reported cases the larvæ of beetles have been found in human beings. It was suggested some time ago by the president of the London Etymological Society that the symptoms which these insects cause should be grouped under the name of human cantharisasis. Both the meal-worms, tenebrio obscurus and tenebrio molitor, whose adult stage is represented by the ordinary black beetle so familiar in our houses, have been found in human beings. It is probable that they do not act as true parasites, but having been accidentally introduced, usually in the ovum stage, they reach their development in the human body and then find their way out.

Human Scholechiasis.—It was suggested that the name scholechiasis should be applied to those cases in which the larvæ of the lepidoptera were found in human beings. Butterfly larvæ have not infrequently been found in the stomach and occasionally in the alimentary canal of human beings. The patients are usually children and the swallowing seems to be accidental. The question of winged parasites in the various cavities of the human body developing and obtaining their nutrition from the human being until the winged stage is reached is a rather large one. A number of such parasites have been found and some of them caused very severe symptoms, especially in the nose and accessory sinuses.

Site of Gastric Cancer.—Dr. Stephen S. Burt read a paper on colloid cancer of the stomach

and omentum. He discussed the question of the location of cancer of the stomach and showed that in more than one-half the cases the cancer occurred at the pylorus. Of the 1,300 cases collected by Welch, nearly 60 per cent. were situated in the pyloric region. Of 91 additional cases that Dr. Burt himself has collected, 47 occurred at the pylorus. Other parts of the stomach seem to have no special aptitude for cancer, except that a large number occur near the esophageal opening. A very remarkable thing is the great infrequency of cancer of the duodenum, which is somehow wonderfully spared from the development of malignant growths.

Colloid Cancers.—Of the 91 cases of cancer of the stomach that Dr. Burt has collected, 12 were of the colloid variety; 4 of these involved the omentum also. In most of the cases the whole of the stomach-wall was infiltrated and yet stomach function was only very slightly impaired. The viscus was able to accomplish its work much better than when cancer occurs at either of the orifices. The stoppage of the flow of nutritional material in orifice cancer soon becomes serious and a vicious circle is set up that rapidly makes the condition of the patient worse and worse.

Diffuse and Localized Cancer.—While in most cases colloid cancer is diffuse, occasionally a localized tumor occurs. In 4 of the cases that Dr. Burt collected there was an extension to the peritoneum. The gelatinous form of colloid cancer has a special tendency to spread to the peritoneal surface. It infiltrates the layers of the gastro-intestinal tract, and then on the surface of the peritoneum may spread to the diaphragm; thence it usually finds its way into the thorax and involves the pleura and pericardium. It not only attacks the peritoneal covering of the viscera, but invades the viscera themselves. Small nodules of colloid cancer may even occur in extensive metastatic cases in the diploe of the cranium. Colloid cancer has an especial tendency to break down and in pus cases a marked, acute cachexia develops. When ulceration does not occur, dropsy develops and is apt to give considerable trouble.

Pathological Appearances.—Even with the naked eye the alvelor appearance of this form of cancer may be readily seen. Within the large alveoli, mucoid material occurs. Most pathologists consider this substance due to a degeneration of cancer tissue. Langerhans, however, considers that this is a specific form of cancer tissue. The neoplasm grows by the accretion of this tissue. The most characteristic alveolar appearances are found in the more recent parts of the tumor. This type of cancer has been spoken of as a reversion to a lower form of tissue, an original embryonic type, but not a true degeneration. On the other hand, this kind of tissue, being very poorly nourished, would show special tendency to ulceration even more frequently than at present, but for the indolent character of the mucous tissue. The mucus is therefore considered a protective provision of Nature.

Theories of Etiology.—For this form of cancer, Conheim's explanation of the origin of such neoplasms seems most suitable. During the embryonal stage of development, bits of germinal tissue, whose nisus generativus had by no means been exhausted, are nipped off from the related tissues in which they lie and become enclosed in neighboring tissues. Later on in life, some injury, or a reduction of the resistive vitality of the individual, excites these germinal cells into activity with the result that embryonal tissue of a special malignant character develops and its secretions, acting as toxins, are absorbed into the general system producing the cancer cachexia. Some pathologists assert that colloid cancer is always secondary and that a primary nodule of cancer will be found hidden away in some organ. They insist that this cancer nodule should be carefully looked for, as it explains better than anything else the origin of the colloid condition. One of the most striking things about colloid cancer is the fact that it is prone to cause almost no symptoms, or only symptoms of the most indefinite character, for a long time. This rule applies especially to the very diffuse forms of the neoplasm. Nodular colloid cancer is more easily recognizable. Some of the difficulties of diagnosis are illustrated in the following case.

Symptomatic Course.—The patient was a man, forty-three years of age, who came in May, 1900, complaining of pain in the right hypochondrium. For some time before he came to the hospital his abdomen was enlarged and his feet swollen. He had suffered considerably from constipation and there were some signs of a decrease in the amount of urine passed. Physical examination of his abdomen showed considerable tension of the abdominal walls and ill-defined fluctuation could be made out. There seemed enough fluid to demand tapping and on the insertion of a cannula 100 ounces of fluid were withdrawn. Notwithstanding the withdrawal of this large amount, there was still a feeling of resistance in the abdominal wall. Sufficient relaxation occurred, however, to enable the examining hand to detect the presence of some tumor nodules. The inguinal glands were enlarged, but the supraclavicular glands were not at all affected.

Repeated Tapping.—The patient's mind continued clear, notwithstanding the progress of the case, and he was tapped altogether some twelve times. Each time over 100 ounces of fluid were withdrawn. Toward the end as much as 250 ounces were withdrawn and the patient had to be tapped every few days. During the course of one of these tappings there came through the cannula some characteristic portions of the tumor. These, when placed under the microscope,

showed at once that the neoplasm was of colloid nature. The patient's mind continued clear to the end and death took place from asthenia. This is one of the few cases of colloid cancer in which the diagnosis has been made before death. There is nothing characteristic about the symptoms by which the diagnosis can be more than suspected, unless, as happened by fortunate accident in this case, some portion of the tumor can be obtained for microscopic examination, when, of course, the diagnosis is easy.

Rarity of Colloid Cancer.—Dr. Beverley Robinson said that colloid cancers are rather rare. He has seen none of the stomach and not more than three of the omentum. The marked tendency of such pathological rarities to occur in groups, is well illustrated by the fact that, just about the time that Dr. Burt's case came under observation, a patient suffering from the same condition entered St. Luke's Hospital. This patient's case is interesting, because the condition was not diagnosed until the autopsy, notwithstanding the fact that an exploratory incision was made.

Colloid Growths and Peritoneal Tuberculosis.—In the case under Dr. Robinson's care, the sense of tension in the abdomen and the evident presence of fluid had given rise to the conclusion that tuberculous peritonitis was present. The patient was referred to the surgical ward, where incision was made and the fluid evacuated, but it reaccumulated again before long. The patient was returned to the medical ward, where he was under observation for some time. In this case there was very little fever, not much emaciation, and the ascitic fluid seemed to be of the ordinary character. At the exploratory laparotomy a number of small tumors of the mesentery were noted, but these were considered to be enlarged tuberculous glands. The feeling communicated to the fingers by the presence of these little tumors is not unlike that produced by tuberculous glands, so that deception is easy in the matter.

Differential Diagnosis.—Dr. Thomas Satterthwaite said that colloid cancer is very rare. It constitutes at most two per cent. of all forms of cancer. Colloid cancer of the stomach is proportionately much rarer than this. The only absolutely sure method of diagnosis is by exploratory incision with the removal of part of the tumor for diagnostic purposes. The postmortem appearance of affected tissues is not unlike that produced by tuberculosis. A number of white glistening bodies are seen, many beneath the serous covering of the viscera, looking not unlike miliary tubercles.

Etiology of Colloid Cancer.—Waldeyer insists that all peritoneal colloid carcinomata are secondary and that the primary nodule of cancer can always be found, if looked for. Pathologists generally do not accept Langerhans's theory that the colloid material is the specific tissue of the neoplasm, but insist on the contrary that it is a form of degeneration. The colloid change in the neoplastic tissue is really Nature's effort at eradicating the neoplasm. The tissue thus lacks vitality and is liable to break down. As a rule, however, the neoplasm has so impaired the forces of the individual that if a suppurative process results, instead of proving helpful, it constitutes another drain upon the patient.

Symptomatology.—Dr. Einhorn said that often the only symptom produced by colloid cancer is a feeling of discomfort. Sometimes even this is absent and loss of flesh is what calls the attention of the patient and friends to the existence of some serious pathological condition. The loss of flesh is, however, not disproportionate to the lessened amount of food which is taken. The appetite is affected rather early in the disease. Needless to say, on examination of the stomach chemically no specific symptoms are found. Lactic acid is not present and there is no modification of the amount of hydrochloric acid. Dr. Einhorn has seen a definitely limited colloid cancer in one case. In all other cases the neoplastic process was diffuse.

Suspicious Case.—Dr. A. H. Smith said that he had under observation at the present time a case in which there was considerable ascites, though there was no enlargement of the liver and very little evidence of kidney disturbance. The urine contains no albumin and only an occasional hyalin cast. On movement of the patient, there is very little change of level. Four weeks ago an attempt at tapping brought away a very little fluid. The sensation given by the trocar was that of contact with something more solid than the intestines themselves. The urine was at times scanty, but this seemed to be due to the intra-abdominal pressure causing inaction of the kidneys. There has recently been a better flow of urine and this was thought to be due to the fact that a neoplasm was present and that somehow the tumor had changed its relation to the renal vessels so that instead of pressing on them as before, it left the circulation in them free. The patient continually grows weaker and is at present in very poor condition. There is a doughy feel in the abdomen, though there is an absence of nodular enlargements. There are no serious gastric symptoms, though the loss of appetite is marked; there is no pain nor vomiting. The presence of colloid cancer is suspected.

Diagnosis Antemortem.—Dr. Burt in closing the discussion said that colloid cancer is very rarely diagnosed before death. Fagge once saw a case when on a visit to the country in which the diagnosis was made before death. It is often said that there is no fluid in the abdomen in these cases, but ascites is sometimes one of the prominent symptoms. This is especially true if the tumor does not fill the abdomen. Pepper reported a case in which intra-abdominal pressure became very high as the result of the accumulation of fluid. In one reported case colloid material was vomited. When the tumor grows large and the ascites is also a marked feature of the case, the urine is apt to be very much reduced in amount. This will soon produce uremic symptoms, unless

the pressure is relieved by tapping. Other important functions will also be interfered with because of the disturbance of circulation due to the intra-abdominal pressure.

Intracranial Neoplasms and the Neurons.—Dr. F. Savary Pearce of Philadelphia read a paper containing some points of intracranial neoplasms considered from a neuronic standpoint. Dr. Pearce said that cerebral neoplasms are rather frequent. The neoplasm could have been removed by operation in about 7 per cent. of the 600 cases studied by Dr. Starr. Differential diagnosis as to the location of tumors is extremely important from an operative standpoint; therefore, if points for diagnosis can be gleaned from the neuronic theory, they would be very valuable. Rapidly growing tumors produce a condition of shock, with consequent retraction of the neurons. Slow growing tumors do not produce shock and consequently many of the acute localizing symptoms are missed.

Functional Symptoms.—Most of the hysterical symptoms have their only rational satisfactory explanation, if one accepts the theories of separation of the neurons and of their wrong connection at times, because unaccustomed nerve-endings are in contact. There is a perversion of neuronic activity with consequent disturbance of sensory impulses. Galvanism of the scalp, as is well known, may cause headache. This seems to be due to the fact that sensory neurons are interfered with and in consequence of their irritation their endings are pressed close together, as when irritated, and this is translated into pain.

Sensory and Motor Disturbances.—Sensory and motor pathological phenomena are best explained as perversions of neuronic activity. When there is the sensation of subjective noise in the ear, as in the oft-complained-of tinnitus, the basis of the disturbance would seem to be a lining up of the neurons that usually conduct sounds, but without the ordinary external stimulus of noise to produce the lining up. In such motor phenomena as chorea, it would seem that there was an active disturbance of the motor neurons, with a consequent production of involuntary motion.

Theory of Neuronic Motion.—Dr. Charles L. Dana said that if by the neuron theory is understood the separation of the dendrites of nerve-cells from the end-brushes of nerve-cells, the discussion seems futile, because this theory is not supported by any biological evidence except in some very low animals. It is only a conjecture, the foundation of a theory that may serve for pleasant hypotheses. It is true one may consider that tumors may push apart neurons and so cause symptoms. The idea is grossly material, however, and does not add to diagnostic power.

Advances in Brain Tumor Diagnosis.—There are some recent advances in the diagnosis of brain tumors that are worth discussing. Examination of the blood may throw some light on the nature of the tumor. Marked leucocytosis shows that abscess or inflammation is present. More leucocytes are found in the blood in sarcoma, than in carcinoma. There are some diagnostic advances that seem to point to the fact that the eosinophilia may be of diagnostic aid. Stereognosis is absent when the cortex is slightly affected in the motor region. This symptom is of more significance than is the anesthesia. Babinski showed that the flexor response of a large toe occurs when there is a lesion of the motor cortex or of the pyramidal tract.

Tumors and Neurons.—Dr. Sachs said that even the smallest of brain tumors compared to a neuron was as a giant to a pigmy. The growth of tumors could therefore not be expected to produce any very definitely localizing symptoms, because of interference with the functions of special neurons. Too many neurons in the neighborhood of a tumor were affected by it for this to be expected. While the retraction theory of the neurons is popular in Philadelphia, it does not meet with very general acceptance, or approval, in other places. There is no substantial proof that neurons do actually move during life and their supposed movement is a mere speculation that gives a quasi foundation to a number of interesting theories.

Silent Parts of Brain.—As a matter of fact, one cannot hope for definitely localizing symptoms from tumors in all parts of the brain. As Seguin pointed out, no matter what influence is exerted on certain parts of the brain, no symptomatic response seems to occur. These are the so-called silent parts. Only very limited parts of the brain give special symptoms, because of increase of pressure in their neighborhood and it is only when tumors occur in these parts that one can reasonably hope to trace their localization by means of the symptoms produced.

Recent Work on Tumors.—Dr. Max Schlapp said that recent nervous pathology contains some important and suggestive material for the diagnosis of brain tumors. It is now recognized that they are not as distinctly separated from each other in their course to the brain as has been thought, and that there are series of sensory nerve-fibers which come down from the brain and whose disturbance may easily occur as the result of brain tumor. The disturbances of sensation thus caused are somewhat difficult of detection, but their pathological basis has been traced by the Marchi method and this may lead to the discovery of symptoms that will help us in tumor localization.

Splenic Myelogenous Leucemia.—Dr. A. Sturmdorf read a paper on splenic myelogenous leucemia complicated by pulmonary, laryngeal and faucial tuberculosis. He also presented the patient and microscopical specimens of the blood changes. When the child came for treatment, she was suffering from night-sweats and had lost twelve pounds in weight. A sister who suffered from tuberculosis had recovered, but another had died from the disease. The patient was phthisical and had panniculus adiposus. There were eczematous patches on the elbows and knees.

Blood-Count.—The proportion of white blood-cells to red cells was one to eighteen. The number of white cells to the cubic millimeter was 150,000. Paroxysms of fever occurred occasionally and at these times the number of myelocites was increased while the number of polynuclear leucocytes was decreased. There seemed to be a distinct connection between these changes in the blood and the febrile course of the disease.

Treatment.—Potassium iodide was given in considerable doses and arsenic was employed for its alterative, tonic effect. The patient's paroxysms of fever became more and more rare, as she began to gain in weight. Even when the variations in the temperature were not very marked, however, distinct changes could be noted in the differential blood-count. Specimens for blood-examination were always taken at least four hours after a meal, in order to avoid any influence that digestion leucocytosis might have in producing changes in the number and relative proportions of white cells present. There were a number of megaloblasts found among the red blood-cells, but the other changes in the red cells were no more than would be found in a case of anemia corresponding in severity to the reduction of red blood-cells found in this case. There seems every reason to think now that the improvement in the patient's condition will continue and that the case has taken on a hopeful aspect.

NEW JERSEY STATE MEDICAL SOCIETY.

THE one-hundred-and-thirty-fifth annual meeting of this Society, which is the oldest medical organization on the American continent, was neld at Deal Beach on June 25, 26 and 27, 1901. There was a large attendance of members, and among the visitors was a delegation from the New York State Medical Association, consisting of Drs. John A. Wyeth, J. A. Corning, F. H. Wiggin, and Wm. F. Leszynsky.

Tributes to the memory of the late Dr. William Pierson of Orange, who died while holding office as the President of the Society, were paid by Dr. T. W. Harvey and others.

Dr. J. D. McGill of Jersey City, First Vice-President, opened the scientific proceedings by delivering an Address in which he surveyed the duties and defined the qualifications requisite in a medico-legal expert.

Thereafter a number of reports were read. One, dealing with diseases that had prevailed in the State during the year, expressed regret at the neglect of vaccination which had grown out of the rarity of smallpox in recent years and the false feeling of security which had thereby been engendered. Another referred to the medical inspection of schools and a third recommended the adoption of measures for the establishment of a State sanatorium for tuberculosis. The necessity of securing legislation for the prevention of the abuse of public charities and for obtaining State aid for hospitals also received attention.

Addresses on the progress in surgery, diseases of the nose and throat, and bacteriology were delivered respectively by Dr. Charles Young of Newark, Dr. B. A. Waddington of Salem, Dr. D. H. Bergey of Philadelphia.

Features Practicable for Preventing the Spread of Tuberculosis.—Dr. Henry Mitchell of Asbury Park read this paper. He showed, by the quotation of statistics and otherwise, the good results that had been accomplished by the establishment of sanatoria and the adoption of improved sanitary and hygienic methods; but said that a much more systematic campaign must be engaged in if physicians were to succeed in stamping out this most deadly of all diseases.

Arteriosclerosis and the Nervous System.—This was the subject of a paper by Dr. C. L. Allen of Trenton. The disease was usually associated with old age, but contributory causes were to be found in heredity, syphilis and the abuse of alcohol. The direct cause was the want of a sufficient blood supply, and the treatment called for was attention to the general health, hygiene and the free use of potassium iodide. In the course of the discussion which ensued one of the speakers advocated a return to the use of natural foods, chiefly nuts and fruit, and the avoidance of overeating.

The subject of Infant Feeding with special reference to the difficulties that were encountered in the management of infants deprived of natural milk was discussed in a paper by Dr. Alex. McAllister of Camden.

Some Observations on Suprarenal as a Hemostatic.—This was contributed by Dr. Norton L. Wilson of Elizabeth and gave the results of his own experiences and quoted those of others in the use of the active principle of the suprarenal gland in the treatment of nose, throat, eye and ear diseases.

Dr. Walter B. Johnson of Paterson said that adrenalin was a great improvement over the suprarenal gland, inasmuch as it was clean and not so difficult to keep as the mother substance.

Neuralgia and Allied Affections.—Dr. Wm. M. Leszynsky of New York showed how important it was to discover the origin of the disease in each case and treat it. It was desirable to begin with local rather than constitutional treatment, though judicious management of the general health was always advisable.

Plea for the Physician on the Witness Stand.—Dr. Daniel Strock of Camden pointed out that in New Jersey and other States, where no special enactment had been passed to modify the old common law which had been introduced from England, physicians who were called as witnesses were completely at the mercy of the cross-examining lawyer, who could force them to reveal private communications made to them by their patients. After discussion the matter was referred to the Committee on Legislation, with instructions to adopt measures to secure the passing of a law to ensure the reasonable protection of physicians who were called upon to testify in matters involving professional etiquette.

Modern Treatment of Gonorrhea.—This paper was read by Dr. Daniel Currie of Englewood and discussed by Dr. E. B. Silvers of Rahway, Dr. Mortimer Lampson of Jersey City, and others, all the speakers insisting, because of the complications that were apt to arise from it, that the disease should receive more serious and intelligent attention than it frequently did at the hands of general practitioners.

Treatment of Neurasthenia.—Dr. W. B. Stewart of Atlantic City read this paper. In making the diagnosis, care must be taken to eliminate hysteria and insanity, and then it became incumbent on the physician to ascertain the cause of the affection with a view to its possible removal and, in any case, as a guide to treatment. The paper was discussed by Dr. Philip Marvel of Atlantic City and Dr. G. H. Balleray of Paterson, the latter of whom remarked that there was no class of cases in which prophylactic treatment was of greater importance.

Dr. Samuel E. Armstrong of Rutherford, in a paper on "Some of the Infections, Their Genesis, Habitat, Consequences and Prevention," spoke particularly of abscess, syphilis and malaria. In connection with the latter he urged the adoption of concerted measures for the extermination of mosquitoes in New Jersey.

Milk as a Means of Contagion.—This was the subject discussed by Dr. R. C. Newton of Montclair and Dr. H. L. Coit of Newark, who did not agree as to the conclusions to be drawn from an outbreak of diphtheria which was alleged to be due to the milk-supply in the former place.

Intestinal Perforation in Typhoid Fever.—Dr. Joseph Stokes of Moorestown called attention to the importance of early diagnosis with a view to surgical interference.

Dr. Emery Marvel of Atlantic City read a paper showing the advantages to be derived from using ethyl bromide as a primary anesthetic to ether or chloroform.

Dr. Balleray of Paterson read a paper on "The Diagnosis and Treatment of Early Ectopic Pregnancy" and reported a case of Cæsarian section for deformity of the uterovaginal canal.

Cases of tumor of the neck and suppurative choroiditis were reported on, respectively, by Dr. J. C. McCoy of Paterson and Dr. Talbot R. Chambers of Jersey City.

The importance of the X-ray for diagnostic and medico-legal purposes was the subject of contributions by Dr. C. L. Leonard of Philadelphia and Dr. Carl Beck of New York.

Office-bearers for the ensuing year were chosen as follows: President, Dr. J. D. McGill, Jersey City; Vice-Presidents; Dr. E. L. D. Godfrey, Camden; Dr. H. Mitchell, Asbury Park, and Dr. A. W. Taylor, Beverley; Secretaries, Dr. E. W. Hedges, Plainfield, and Dr. Wm. J. Chandler, South Orange; Treasurer, Dr. Archibald Mercer, Newark.

It was announced that the Society is prepared to award a prize of $100 for the best essay on any subject connected with the practice of medicine or surgery, showing original thought or research or adding to the information of the profession.

It was decided to hold the next annual meeting at Atlantic City.

BOOK REVIEWS.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. Edited by ALBERT H. BUCK, M.D., of New York. Vol. II. Bla-Chl. Quarto; 838 pages. William Wood and Company, New York.

We expressed ourselves as highly pleased with the first volume of this important work. It was of the greatest value and was a credit to its authors, editor and publisher. This second volume is even better than the first in that it contains certain subjects which are of the greatest importance and which are treated in a highly satisfactory manner by acknowledged masters in their respective lines.

The subject of the blood in its normal and pathological aspects is exceptionally well treated. The lengthy and carefully detailed account of the methods of blood examination in particular are practical and will be of great service to any physician who is away from laboratories.

The article on brain, both macroscopically and microscopically, is monographic in its completeness and is perhaps one of the best accounts of this organ we have seen, apart from special works devoted to the subject. In the anatomical portions Wilder rides rough-shod over the ground and leaves the descriptive field a perfect mass of his idosyncratic etymological phrases which makes it impossible for any student not trained in Cornell to understand what is being said. It is to be regretted that so many minute contraversial points have been allowed to blemish what otherwise might have been a more valuable contribution. The article on the histology is exceptionally valuable and well illustrated.

Some of the articles on materia medica have not received the attention that they deserve in that the terminology is hopelessly antiquated and the analysis of the physiological action much behind the times. The vegetable drugs are among those which are best treated and have been more up to recent work. Take it from all points of view this is a praiseworthy volume in a desirable series.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK. For the year 1901. 8vo, 524 pages. Illustrated.

THE ESTIVO-AUTUMNAL (REMITTENT) MALARIAL FEVERS. By Dr. C. F. Craig, 8vo, 221 pages. Illustrated. William Wood & Company.

MT. SINAI HOSPITAL REPORTS. Vol. II., for 1899 and 1900. 8vo, 540 pages. Illustrated.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIX. NEW YORK, SATURDAY, SEPTEMBER 14, 1901. NO. 11.

SPECIAL ARTICLES.

THE PRESIDENT'S CASE.

THE sad crime that laid our President low and for a time seemed to threaten his life has occupied so much attention that we have felt that the medical profession of the country would be interested in knowing the details of the President's injury and the subsequent course of the case, not from the more or less distorted statements of the secular press, but to as great an extent as might be under the circumstances from the members of the profession who have been in actual touch with the case. The following notes are from a special correspondent sent to Buffalo to consult the surgeons in charge and as far as possible obtain information at first hand:

The Wounds.—The President's case is a striking example of how little pain may be inflicted by bullet wounds and how little conscious of their infliction the wounded person may be. The wounds were received from a distance of less than three feet. The first shot penetrated the abdomen, wounding only soft tissues, and the President seems not to have felt it at all and not to have realized what had happened. This first shot, after penetrating the anterior abdominal wall, seems to have followed a course somewhat downward and outward. The President's assailant was carrying his right arm across his chest as if it were in a sling and as he straightened it to fire the general direction of the arm was downward. This circumstance perhaps accounts for the fact that the diaphragm was not wounded, although the wound of entrance of the bullet was about two inches to the left of the umbilicus and about on a level with it (standing position).

After the first shot the revolver, as is usual with weapons of this form, kicked upward so that the second bullet hit the sternum toward its left edge and near the articulation with the fourth rib. This bullet did not even penetrate the skin, but made only a discolored, bluish, bruised mark and was found later in the Presidents clothing. This bullet did not hit a button or other hard substance in its passage through the waistcoat and shirt, but fortunately seems to have been one of those weak-charge cartridges that sometimes are found among ordinary commercial revolver ammunition. The revolver used was of 32 calibre, of the variety known as bulldog, *i.e.*, with very short barrel, which favored the concealment of the weapon when carried in the hand.

There are different accounts as to how the President acted after the second shot. Practically all bystanders agree in saying that he was very little disturbed for a few moments while he stood facing the would-be assassin. Then a look of anxious surprise came into his face and, as those near grappled with his assailant, Mr. McKinley turned somewhat pale to those beside him. The shock and pain of his wounds had thus far been so little that he had to ask those around him if he were shot. When assured that he was, one of his first thoughts seems to have been for Mrs. McKinley, and he asked a secret-service man near him whom he know very well to see that the news be broken gently to her.

After a few moments the sight of blood and the excitement affected him, and he became weak and had to be supported. He reclined on a chair for a few moments until the Exposition ambulance could be summoned by telephone.

The Emergency Hospital.—Within ten minutes after the President was shot he was in one of the ambulances provided for emergency cases and was on his way to the Emergency Hospital on the Exposition grounds near the West Amherst gate. The director of the Pan-American Exposition Medical Department is Dr. Roswell Park. He had remarked more than once to the staff of the little hospital on the grounds that, while their small operating-room was unsuited for major operations and might never be needed for so serious a purpose, circumstances might arise in which it would be necessary to do important surgical work. There was no anticipation then of how grave and weighty an occasion would arise to test the perfection of the operating arrangements. The little operating-room, about 12 by 20, was to be the scene of the most important operation of recent years. Though small, it is reasonably well lighted and is thoroughly business-like in its air of absolute simplicity and cleanliness. How thoroughly aseptic everything about the little room was can be best judged from the post-operative course of the President's case. Great credit it would seem, now that the apportioning of commendation is in order, is due to the house staff, Drs. Hall and Zittel, and to the head nurse, Miss Walters, for the perfect condition that fortunately had been maintained.

As soon as the President arrived he was put on the operating-table, but without removing the stretcher on which he had originally been carried to the ambulance. This stretcher remained under him until after the operation was completed and served for his retransfer to the ambulance when he was moved to the home of Mr. Milburn. Dr. Roswell Park, the medical director, was at once summoned, but it was found that he was out of the city, operating at Niagara Falls. From there he came later by special train, arriving before the end of the operation. Considerable difficulty was experienced in finding Dr.

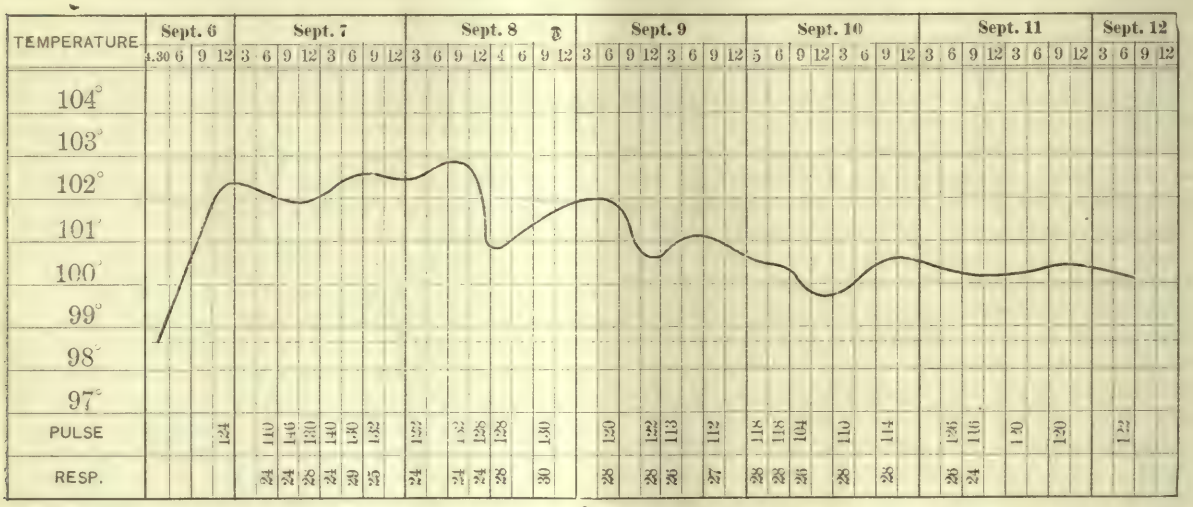
Mann. He was in a barber's chair when the urgent summons finally reached him, and left the shop, he said, with his hair only half cut.

The Operation.—As soon as it was found that Dr. Roswell Park could not come at once, Dr. Matthew D. Mann was summoned by President Milburn of the Exposition. He arrived at the hospital at five minutes after five. The President had been wounded at 4:07 p. m., so that practically an hour had elapsed. Very naturally this hour of waiting seemed very long for the President. Nothing was being done nor was there the slightest inkling of what would be done. The only sign of impatience manifested by the patient came at this time. He asked if others did not find the wait intolerably long.

All delay was over as soon as Dr. Mann arrived. Examination showed that, while the wound in the thoracic wall was only a superficial bruise, that in the abdomen had penetrated the abdominal cavity. The President's condition was good; the fact that laparotomy was of vital necessity and that every moment of delay while waiting for surer indications for surgical intervention would have been precious moments lost while infectious material was being absorbed. The stomach had been penetrated and some of the stomach contents were already extravasated into the abdominal cavity.

An opening was found in the anterior wall of the stomach in the neighborhood of the greater curvature. This opening was in the upper half segment of the stomach. Its position, small size and sharp inverted edges, and the contraction of that viscus served to keep it tightly closed. That on the posterior wall was larger and more irregular, but its edges were also inverted and the amount of leakage of gastric contents was not large. No bacteriological examination of this small amount of extravasated matter was made.

It was about three hours before his wound was received that the President had taken his lunch.



Temperature, Pulse and Respiration Record.

there was as yet no rise of temperature, the pulse was running slightly over 100 and the patient was evidently suffering slightly from shock. There had been two or more almost fainting spells and one-thirtieth of a grain of strychnine was given as a stimulant. A sixth of a grain of morphine was administered to quiet some restlessness due to the delay. The presence of a penetrating wound of the abdomen seemed to Dr. Mann sufficient indication for at least an exploratory laparotomy. As the events show, this was an extremely wise conclusion. Mr. McKinley at once accepted the doctor's opinion in the matter and expressed his entire willingness to submit to whatever treatment might be deemed necessary.

Nineteen minutes after his arrival, that is, at 5:24 p. m., Dr. Mann made his incision. The President had been given ether while the surgeons' personal preparations were making, and he took it very quietly and without excitement. The opening of the abdomen at once disclosed

It was fortunate that that meal was taken at Niagara Falls, where, according to tradition, at least lunches are not prone to be excessive in quantity. Though it was so long after lunch, the President's stomach was found about half full. The edges of the wound were repaired with Lembert sutures. The posterior wall of the stomach was then exposed by turning the organ upward and backward, avoiding any contact with the intestines, and a wound corresponding to that in the anterior wall was found. This was sutured as the other one. All extravasation was now at an end. No other visceral wounds could be found. There was practically no hemorrhage. The abdomen was thoroughly flushed out with sterile normal salt solution. As the bullet had not been found during the course of the rather lengthy manipulations (the patient was under ether about an hour and a half), further search for it was deemed inexpedient. The apparent direction of this bullet was, as has been said, away from the median line. There was no danger

that it had injured the body of a vertebra, as in Garfield's case, and the fact that there was no noticeable hemorrhage seemed to indicate that it had lodged in the muscles of the back, where it might well remain without doing any harm.

The question of using the Roentgen rays to locate the bullet is still open. Unless the ball gives rise to symptoms of irritation, however, the President will not be disturbed and the use of the Roentgen rays will be postponed until he is well on the road to convalescence. So far there has not been the slighest indication that the bullet is causing any trouble, and the indications are entirely for expectant treatment.

We here append the temperature chart prepared from the special bulletins of the case. It is to be noted that the temperature was taken by the rectum until Tuesday morning. This makes the earlier readings a trifle over ½° F. higher than they would have been if taken by the mouth.

A Cutaneous Abscess.—There was a thrill of apprehension on Wednesday morning at the announcement that a second operation had been performed on the President late Tuesday night. This was not an operation, but only a dressing of the incision. For forty-eight hours before the President had been complaining of some tenderness in the neighborhood of the wound and this had not only persisted, but increased. It was thought better to investigate the cause for this discomfort. A small superficial collection of pus along the edge of the wound was found to be forming. It was noticed by Dr. Mann, who called the attention of the assistant surgeons to it while making his incision, that a small portion of clothing had been carried into the abdominal wound. It did not reach the abdominal cavity, but was found near the bottom of the fatty layer of the abdominal wall. The shreds of clothing were removed as carefully as possible, but it is a well-known experience that portions of such material are liable to be left in the wound. This Dr. Mann considers to have been the origin of the superficial suppuration that was found to exist. The collection of pus was evacuated without in any way disturbing the coaptation of the wound edges and the wound was redressed as before. As a result of the relief thus afforded the President passed a more comfortable night on Tuesday and was in excellent spirits on Wednesday, asking for the paper and wanting to talk more than the attending surgeons considered good for him. Feeding by the mouth was begun on Tuesday morning and was well borne. Since Wednesday all nourishment has been given in this way, and the rectal alimentation of the first few days, which was fortunately always satisfactorily retained and absorbed, has been discontinued.

The Outlook.—As we go to press all the surgeons in attendance are agreed that danger of peritonitis is over. There is, however, still some danger of sepsis. Wounds in civil life differ from those in military life in the greater after-danger of septic involvement. Revolver cartridges are more liable than are rifle cartridges to have been handled frequently, to have been carried in dirty pockets, and to have come in contact with various forms of infectious materials that may prove of serious consequence when buried in the tissues. Moreover, revolver cartridges are covered with a coating of grease and this encourages an accumulation of manifold microbic material some of which may prove to be of virulently infectious nature. Rifle bullets are practically always sterilized by the intense heat developed by the powder at the moment of their discharge. Their rapid progress through the air while in a heated condition still further serves to cleanse them of any extraneous material that may chance to have accumulated on their surfaces. This cleansing process is very effectually begun by the rifling of the rifle barrel through which the bullet forces its way. All of these favorable factors are lacking in the case of the revolver bullet, and so it is possible that in any given case such a bullet may carry infectious material with it into the tissues. If this were in small amount Nature might effectually wall it off and no serious consequences result. On the other hand, such infectious material might lie seemingly dormant for days, but really slowly gathering strength by multiplication, and when its toxins were elaborated in sufficient amount they might paralyze protective chemotaxis and produce a septic condition.

Blood-counts made by Dr. Eugene Wasdin demonstrated the absence of leucocytosis. The differential count of leucocytes showed no departure from normal and the usual number of red cells was present. Thus the evidence derived from the blood-counts indicates the absence of any sepsis.

There is nothing in the President's condition at the present moment to hint at such an unfavorable possibility. He is recovering rapidly from his wound without a single disturbing symptom. He has not had any peritonitis and the danger from that is past. The disturbance of pulse and temperature noted for forty-eight hours after the operation and that were a source of no little disquiet to those who did not realize all the conditions were due to three principal factors, (1) the shock of the wound itself, (2) the shock due to the manipulation of the stomach and intestines during the operation, and (3) the disturbance of the nervous system and the shock incident to the intra-abdominal manipulations, all having been necessarily done in close proximity to the solar plexus. Dr. Mann refers most of the immediately subsequent disquiet to solar plexus irritation. This is now a thing of the past and every sign points to assured speedy and complete recovery. If the President were younger by twenty years it would be possible for him to be up and around in ten days. As it is his reaction all through the course of the affection has been that of a man much younger than his years. There is, then, really very little danger of sepsis developing and its possibility is held out by the surgeons merely in order not to seem too sure of the distinguished

patient's recovery, for, after all, stranger things have happened than a turn for the worse in cases that have apparently progressed as favorably as this.

Older surgeons would still fear from the secondary manifestations of wounds. For the military surgeons of a quarter of a century ago there would still be (at least for nine days after a bullet wound) some danger from secondary hemorrhage, for instance. As is well understood now these so-called secondary complications were really due to gradually developing septic conditions. As to secondary hemorrhage, there having been no primary hemorrhage, the danger in this respect seems more or less imaginary. The fact that the attending surgeons look to the possible development of sepsis as the only complication to be feared now shows that we have not departed as far as might seem from the point of view of older surgeons.

The possibility of such a retained bullet finding lodgment beside an artery and by pressure absorption opening the vessel and causing hemorrhage was formerly seriously entertained by the surgeons of a generation ago. It is now generally conceded that it was never the mechanical factor of pressure alone that worked harm in such cases; there was always the accessory element of septic material present on the bullet and producing preliminary tissue changes. The dangers to be feared, then, are all concentred in the word sepsis, and for those who fear to tempt fate by too good a prognosis this is the rational method of giving hostages to fortune.

Besides the question of sepsis there remains, of course, the doubt whether the bullet may not have found its way after its course in the abdomen through the diaphragm and so be lodged in the pleural cavity. This is, as is well known, a very frequent lodgment for bullets that penetrate the stomach. The possibility of this was a great source of uneasiness to the attending physicians for the first two or three days. But there has never been any, even the slightest, interference with respiration. There has been no pain nor diaphragmatic discomfort, and now the question of the pleural cavity as the resting-place of the bullet is dismissed from all minds. As said when describing the wounds, the weapon seems to have been directed somewhat downward when the first shot was fired and this fortunate circumstance spared subsequent pleural complications and the serious sequelæ that would be almost sure to have followed sooner or later.

The Prisoner.—Owing to all that has been said in sensational journals about the prisoner as a typical criminal he comes into the medical aspects of the case. It will be hard for the criminologists to bring him under any of their classifications of innate criminality. He has a young foreign-looking face that even now, with its week's growth of beard topped by unkempt hair, is not unpleasant. He has none of the irregular features so often suggested as typical of the born criminal. There are no hints of supraciliary ridges. His eyes are normally set and of normal size. His ears do not project more than normally and they are equal in size and set at the same level. The jaw is a little heavy, but there is a suggestion of weakness about the lips. Those in immediate custody of him in Buffalo consider him a rather ordinary-looking young foreigner, without any of the facial traits they are so accustomed to see in habitual criminals or those imprisoned for violence.

THE GARFIELD CASE: A SUMMARY OF ITS IMPORTANT FEATURES.

ON THE second of July, 1881, President James A. Garfield was shot from a distance of six feet with a large 42-caliber revolver. Two shots were fired, one passing through his coat sleeve, the second penetrating the back and causing the President to fall to the ground from the shock. He was at first taken to the second story of the Baltimore station, in which building the shooting occurred, and examined by Dr. D. Willard Bliss of Washington.

The point of entrance of the bullet, which was oval and sharply pointed, was on the right side, in the tenth intercostal space, four inches from the mid-spinal line and on a line with the eleventh rib. A slight bloody discharge oozed from the wound. A Nelaton probe was passed into the wound and, passing downward and forward for a distance of three and one-half inches, seemed to engage in a pocket, or cavity. No foreign body was detected in this cavity. On withdrawing the probe it became evident that a rib had been fractured, as the broken ends caught and held the probe, which could only be disengaged after pressure on the sternal end of the ribs. The wound was large enough to admit the little finger, but Dr. Bliss was able to feel only as far as the lower border of the rib, where his finger came in contact with a firm blood-clot. Further probing failed to find the bullet, and it was deemed advisable to desist, since it was feared that the internal viscera were injured, particularly the liver, and that fatal hemorrhage might result.

By this time Drs. Townshend, Purvis, Reyburn, Norris, Lincoln and J. B. Hamilton reached the patient's bedside, but inasmuch as severe collapse and nausea were present it was decided that no further explorations be made; temporary dressings were applied and after a short interval President Garfield was removed to the White House.

On his arrival the pulse was very feeble and rapid and of very low tension; the respirations were slow and sighing in character and the body surface was very cold. Vomiting had been free and persistent, the body was covered with profuse perspiration, the voice was husky and there were severe pains in the limbs. The patient was placed on the right side in order to facilitate drainage, water was necessary to relieve the great thirst and one-eighth of a grain of mor-

phine was administered to control the pain and to aid if possible in reaction.

The accident happened at nine-thirty in the evening and by ten the following morning the condition was as just given. One-sixth of a grain of morphine had to be given at eleven in order to relieve the excessive pain. The pulse responded very feebly to the stimulation; nausea and vomiting continued until seven in the evening of the 3d at half-hour intervals.

The clothing was not removed until 5.30 p. m. when, so great was the shock, it was decided to cut away his garments in order to minimize movement. The first examination showed a well-defined area of dulness over the entire wound surface, which was then supposed to be due to a hemorrhage from the liver and later in the evening, at 7, it was decided that, as far as could be told from the very indefinite symptoms, there was internal hemorrhage and a very unfavorable prognosis was given. At ten the pulse was 158, temperature 96.5° F., respiration 35. At eleven-twenty a reaction occurred, the pulse dropped to 120 and the temperature and respiration became normal. A fitful sleep ensued and during the morning of July 4th he was feeling fairly comfortable; slight nausea and regurgitation were the only symptoms of note. All during this time the mental processes were not affected. He was perfectly rational and attended to a few business and family details without inconvenience. He was particularly anxious to know his own condition.

The wound itself gave no marked discomfort. There was much oozing of dark venous blood. On the removal of the dressing a consultation was held by Drs. Bliss, Wales, Barnes, Woodward, Lincoln and Reyburn. The pulse was then 115, temperature and respiration normal. The patient was cheerful and small amounts of morphine controlled the pain in the extremities. The intestinal and bladder functions were normal. There was some slight tympanites, but no further evidences of any peritonitis. Dr. D. Hayes Agnew of Philadelphia and Dr. Frank H. Hamilton of New York were then called in consultation.

A careful and complete examination was made by each surgeon, although no operative features were undertaken. Their diagnosis was based on the following data: The angle of incidence of the ball, taking into account the relative positions of the two at the time of the shooting; the direction of the ball through the tissues, as far as the probing had been able to determine that; the severe pains and hyperesthesia of the limbs, especially of the right side, with their gradual variation; the repeated fruitless trials to pass the probe or other suitable exploratory instrument more than half an inch in any direction beyond the fractured rib except slightly forward and anterior to the twelfth rib where the probe penetrated two inches.

These facts, combined with the manifest symptoms of profound shock and the long period of collapse, all seemed to point to extensive injury of the abdominal viscera. The increased pain and hyperesthesia of the right side pointed to injury of the nerve-trunks. Injury to the spinal cord itself was excluded.

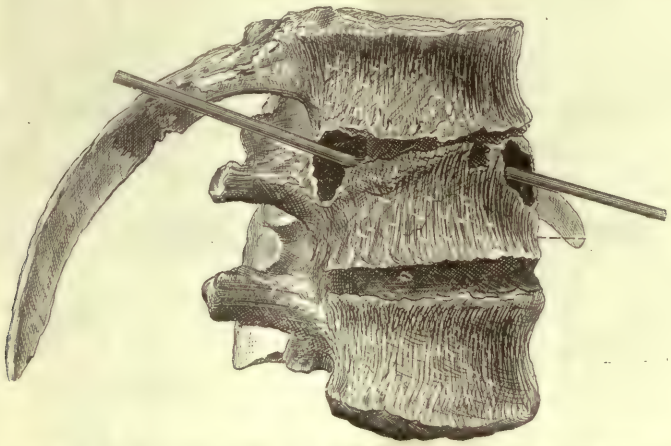


FIG. 1. Shows the course of the ball through the first lumbar vertebra, its direction being indicated by the probe.

The possible course of the bullet was thought to be in one of three directions; either it had gone into and through the liver, or backward at a right angle so that it involved the spinal column, or, finally, it might have gone forward into the abdominal cavity behind the peritoneum. The first supposition, that the liver had been perforated, was excluded by Drs. Agnew and Hamilton. The second diagnosis did not seem probable, and it was deemed that the most reasonable diagnosis was that of the third alternative, although its possibility rather than its probability was upheld by Dr. Agnew.

The early progress of the case was very favorable; so much so that it was decided not to perform any radical operation, such as cutting away a portion of the fractured rib in order to trace more accurately the probable course of the bullet.

By July 4th, the pain, hyperesthesiæ and vom-

iting had almost disappeared, but there was still marked soreness of the feet. During the month of July the case progressed very favorably. There were slight fluctuations; thus, from the 3d to the 6th the variation of the pulse had been from 98 to 126; the temperature had risen to 102° F., and the respiration had varied from 19 to 24. On Friday of the following week, six days after the shooting, some pus had made its way to the surface of the wound, and the highest temperature of the early stages was recorded on the tenth day, it being then 102.8° F. The official bulletins at that time said that it was thought that the bullet was in the abdominal cavity, from which it was hoped it could be removed. On the 13th it was officially reported that circumscribed peritonitis had developed, although a mild amount of peritoneal inflammation had been apparent from the early stages. Notwithstanding this the President's condition remained fairly satisfactory until the evening of July 23d, when a severe chill occurred at seven o'clock. Two days before this a pus sac had shown itself below the twelfth rib in the neighborhood of the erector spinæ and beneath the latissimus dorsi. It was evacuated, but the aggravated symptoms seemed to have been caused by a deeper process and a free incision was made into the pus sac, which was found to communicate with the fractured rib, a portion of which was removed. Recovery not being prompt, three days later this wound was enlarged and a portion of the eleventh rib was exsected. At this time upward and backward pressure on the abdominal wall caused a welling up of a peculiar whitish and firm pus, the larger opening facilitated its removal and the symptoms abated until August 6th, when a slight exacerbation of temperature was manifested.

It was apparent that the pus had made for itself a new canal and had burrowed down behind the peritoneum and lodged in the right iliac fossa. It was also supposed that the bullet had followed this same course and that the pus sinus and bullet track would be found to be the same.

On August 8th the patient was anesthetized, ether being employed, and the pus canal was opened by an incision which was carried downward and forward through the oblique muscles. On careful dissection a deeper burrowing sinus was discovered, and the incision was carried through the transversalis muscle and fascia. The results seemed to promise well for a week, although there was persistent nausea and vomiting which necessitated the continuance of rectal feeding.

It was interesting by way of comparison to note the efforts made on this and on other occasions to locate the bullet by means of Bell's bullet-finder or induction balance. On August 1st the report of Drs. Bell and Taintor was as follows: "Under the supervision of the attending surgeons, Professors Bell and Taintor this morning made another application of the electrical apparatus known as the induction balance, with a view to completing the tests of last week, which were not entirely conclusive, and ascertaining

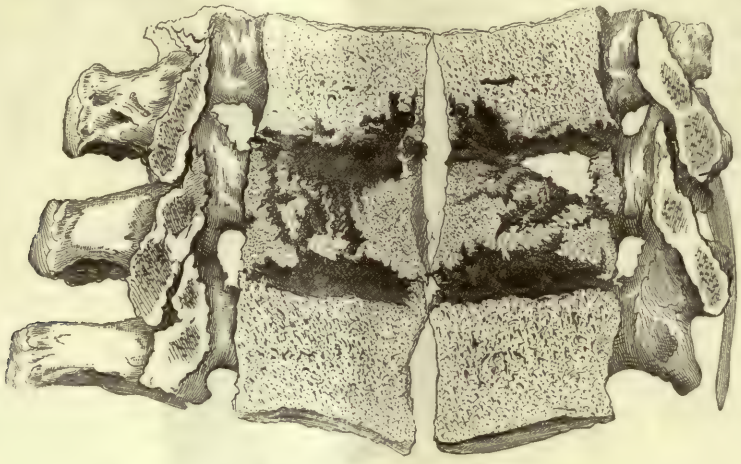


Fig. 2. Shows the above specimen sawn open.

definitely and certainly if possible the location of the ball. * * * They tried this improved apparatus on the President's body for the first time last week, and although it indicated faintly the location of the ball, it was afterward found to be slightly out of adjustment, and the experiment was not regarded as perfectly conclusive. The results of this morning's tests, however, are entirely satisfactory both to Professors Bell and Taintor and to the attending surgeons, and it is now unanimously agreed that the location of the ball has been ascertained with reasonable certainty, and that it lies, as heretofore stated, in the front wall of the abdomen, immediately over the groin, about five inches below and to the right of the navel." The report of the autopsy negatived these findings.

Ten days after the operation a slight parotitis appeared, this finally suppurated, involving the right facial nerve with attending facial paralysis. This local abscess soon healed and with it the mental and gastric symptoms improved, but dur-

ing the latter part of August a number of superficial acneiform pustular eruptions developed, at first in the arm-pits and later on the exposed surface of the body, indicating the much depressed vitality of the tissues. These were opened and healed rapidly. On August 26th there was a discharge of pus through the mouth and from the auditory canal. During this period there was considerable mental disturbance, although it was possible to bring him to a perfectly rational state by fixing his attention. The inflammation of the mouth extended to the trachea, larynx and bronchi, with the development of an acute bronchitis, but these symptoms ameliorated when the parotid suppuration began to discharge. On September 6th the President sank and died twenty-five minutes later.

On the following day a necropsy was performed by Dr. D. S. Lamb, assisted by Dr. J. J. Woodward. The results of the finding applicable to the wound showed the following: "Behind the right kidney, after the removal of that organ from the body, the dilated track of the bullet was dissected into. It was found that from the point at which it had fractured the right eleventh rib (three and one-half inches from the vertebral spine) the missile had gone to the left obliquely forward, passing through the body of the first lumbar vertebra and lodging in the adipose connective tissue immediately below the lower border of the pancreas, about two and one-half inches to the left of the spinal

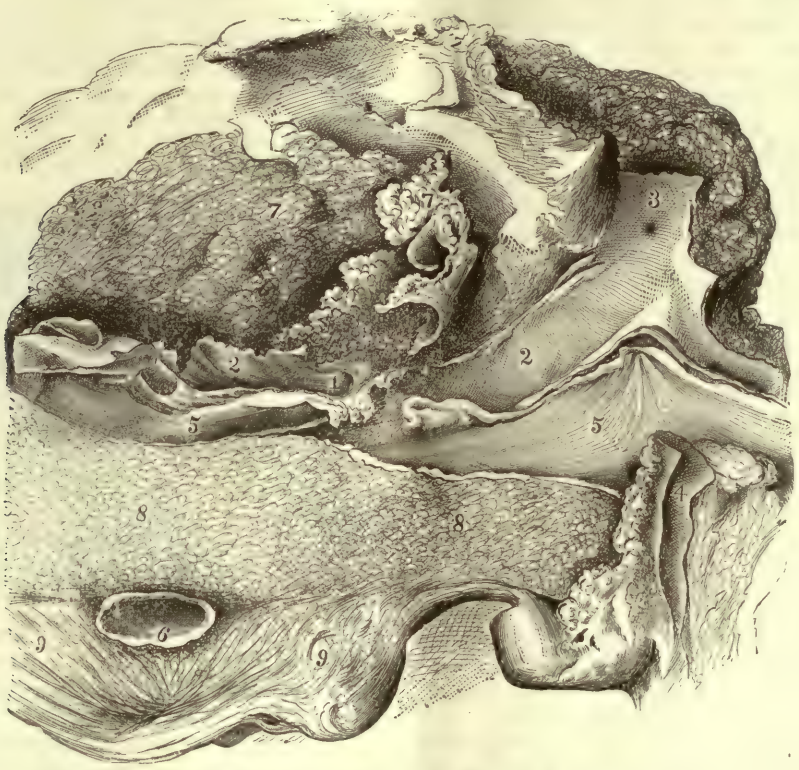


FIG. 3. Shows (1) the point at which the splenic artery gave way; (2) the splenic artery; (3) the coeliac axis; (4) the superior mesenteric artery; (5,5) the splenic vein; (6) the cyst in which the ball was found; (7,7) a portion of the mass of extravasated blood; (8,8) the pancreas; (9,9) adipose tissue behind the transverse meso-colon.

was removed to Elberon, New Jersey, in order that the invigorating air of the seashore might restore his tone and aid in recovery. He stood the journey remarkably well and progressed very favorably until the evening of the 15th, when the temperature rose after a sharp chill and the pulse to 120. With the chill violent and excruciating pains of the chest came on, to be relieved only for a time and then to recur in the paroxysms-like attacks of angina pectoris. These were due to dissecting hemorrhages. On the 18th another chill occurred, with a rise of temperature. The following morning the pulse was very rapid and feeble, the temperature 108° F., and consciousness impaired. At ten-ten in the evening unconsciousness came on and the column and behind the peritoneum. It had become completely encysted.

"The track of the bullet between the point at which it had entered the first lumbar vertebra was considerably dilated and the pus had burrowed downward through the adipose tissue behind the right kidney and thence found its way between the peritoneum and the right iliac fascia, making a descending channel which extended almost to the groin. The adipose tissue behind the kidney, in the vicinity of this descending channel, was much thickened and congested by inflammation. In the channel, which was found almost free from pus, lay the flexible catheter introduced into the wound at the commencement of the autopsy; its extremity was found doubled

upon itself, immediately beneath the peritoneum, reposing upon the iliac fascia, where the channel was dilated into a pouch of considerable size. This long, descending channel, now clearly seen to have been caused by the burrowing of pus from the wound, was supposed during life to have been the course of the bullet.

"The twelfth dorsal, together with the first and second lumbar vertebræ and the twelfth rib were then removed from the body for more thorough examination.

"When this examination was made, it was found that the bullet had penetrated the first lumbar vertebra in the upper part of the right side of its body. The aperture by which it entered involved the intervening cartilage next above and was situated just below and anterior to the intervertebral cartilage next above and was situated just below and anterior to the intervertebral foramen, from which its upper margin was about one-fourth of an inch distant. Passing obliquely to the left and forward through the upper part of the body of the first lumbar vertebra, the bullet emerged * * * and involved the intervertebral cartilage just above. * * * Both the first and second lumbar vertebræ were partly destroyed by ulceration. * * * The spinal cord was not involved. * * * Beyond the first lumbar vertebra the bullet continued to go to the left, passing behind the pancreas to its final resting-place. Here it was enveloped in a firm cyst of connective tissue which contained, besides the ball, a minute quantity of inspissated, somewhat cheesy pus, which formed a thin layer over a portion of the surface of the lead. * * * For about an inch from this cyst the track of the ball behind the pancreas was completely obliterated by the healing processes. Thence as far backward as the body of the first lumbar vertebra, the track was filled with coagulated blood, which extended on the left into an irregular space rent in the adipose tissue behind the peritoneum and above the pancreas. The blood had worked its way behind the spleen into the abdominal cavity. * * * It was found that the fatal hemorrhage proceeded from a rent nearly $^4/_{10}$ of an inch long in the main trunk of the splenic artery, two and one-half inches to the left of the cœlic axis. This rent must have occurred several days before death. * * * The surgeons assisting at the autopsy were unanimously of the opinion that on reviewing the history of the case in connection with the autopsy, it is quite evident that the different suppurating surfaces and especially the fractured, spongy tissue of the vertebra, furnish a sufficient explanation of the septic conditions which existed during life."

This report was signed by Drs. D. W. Bliss, J. K. Barnes, J. J. Woodward, Robert Reyburn and D. S. Lamb.

The names of Drs. Agnew and Hamilton were not appended to this report although they attended the autopsy and concurred in all the statements made.

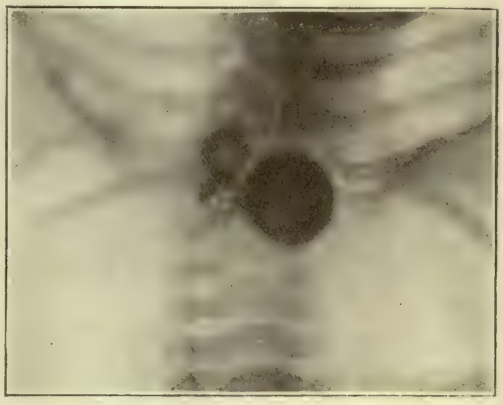
ORIGINAL ARTICLES.

A CASE OF FOREIGN BODY IN THE ESOPHAGUS.[1]

BY RUSSELL S. FOWLER, M.D.,
OF NEW YORK;
ADJUNCT TO THE SURGEON-IN-CHIEF TO THE BROOKLYN HOSPITAL; ASSISTANT SURGEON TO THE METHODIST-EPISCOPAL HOSPITAL, AND TO THE GERMAN HOSPITAL, BOROUGH OF BROOKLYN.

THIS patient was referred to me by Dr. Arthur C. Jacobson to whom I am also indebted for the medical history of the case.

Susan A., two years and two months old, enjoyed perfect health up to the evening of March 31, 1901. On this date her father, while playing with the child, carelessly allowed her to place a penny in her mouth, whence it quickly passed into the esophagus beyond his recovery. The parents expecting the coin to pass naturally, delayed taking their child to the family physician until April 4th. Then, worried by the persistence of the symptoms initiated by the swallowing of the penny, *i. e.*, inability to swallow solid food, the regurgitation of which was immediate, and



spasmodic attacks of coughing, they sought relief. No blood was coughed up, nor was there at any time any complaint of pain. Liquids could be swallowed quite easily.

No attempt was made to locate the coin at this time, but a soft diet was ordered for her in the hope that the penny would pass downward. The child was seen four days later, by which time she had become somewhat thin and pale. Swallowing had become quite easy, probably due to a change in the position of the penny. This change was so marked that the parents were disinclined to have anything further done.

At my suggestion, however, a Roentgen-ray picture was taken by Dr. Bender on April 10th. Chloroform was administered for the purpose of keeping the small patient quiet. This picture showed the penny hanging vertically in the esophagus at the level of the sternal notch. The plane surfaces were antero-posterior, forming a partition on either side of which food could pass. The transition from difficult to easy deglutition was

[1] Von Eiselsberg und Ludloff, Atlas klinisch-wichtiger Roentgen-Photo-gramme, Tafel I. und II.

undoubtedly due to the coin swinging from an oblique into a vertical position.

On April 15, the patient was admitted to the German Hospital where, with the kind assistance of Dr. Bender, I located the coin with the fluoroscope. The patient was anesthetized with chloroform, the head overhanging the edge of the table. Owing to the small size of the patient's esophagus a slender whalebone-handled coincatcher was selected, the whalebone stem terminating in a small silver swinging basket. Even this slender instrument was passed with difficulty though no force was necessary. The difficulty was chiefly due to the stiffness of the whalebone. With the fluoroscope the coincatcher could be seen as it passed beyond the coin; then as it was withdrawn the coin could be seen to fall into one side of the basket and be carried upward with it. As the pharynx was reached the patient's head was lowered and the coincatcher with its imprisoned penny withdrawn.

The subsequent history of the case was uneventful. The child was kept on fluid food for a few days and then resumed her usual diet. No bad after-effects of any kind occurred.

I have records of three somewhat similar cases in which a Roentgen picture was taken. In all three cases esophagotomy was finally resorted to after other efforts at dislodging the coin had failed. In one case the coin was not found by operation, but appeared later at stool.

So far as my own experience goes I should recommend complete anesthesia in children; the use of extremely flexible instruments, particularly in children; the lowering of the patient's head as the foreign body approaches the pharynx to avoid the possibility of its falling into the larynx; the constant visual supervision of the instrument through the fluoroscope; and, finally, that such instrumentation should always precede any operative attempt at removal.

INFANTILE ATROPHY.[1]

BY JOHN LOVETT MORSE, A.M., M.D.,
OF BOSTON;
INSTRUCTOR IN DISEASES OF CHILDREN, HARVARD MEDICAL SCHOOL; ASSISTANT VISITING PHYSICIAN AT THE CITY HOSPITAL AND AT THE INFANTS' HOSPITAL, BOSTON.

THE term infantile atrophy, and its synonyms, athrepsia and marasmus, should be applied only to those conditions of wasting which, in the light of our present knowledge, are primary and not secondary to other morbid processes. These cases of primary wasting form a small, but perfectly definite clinical group, easily distinguishable from the more common cases of wasting secondary to other diseases and conditions.

Definition.—Infantile atrophy is a morbid condition of infancy in which there is extreme wasting of the soft tissues of the body without demonstrable organic lesions. It is the expression of continuous, insufficient nutrition due probably to defective absorption or assimilation rather than to defective digestion.

Etiology.—It occurs most frequently during the first six months of life, less frequently during the second six, and is rare after the first year. It is more common in cities than in the country, and among the poor than among the well-to-do. It almost never occurs in breast-fed infants. Prematurity, inherent weakness of constitution, lack of warmth, light, pure air and cleanliness are most certainly predisposing factors. Unsuitable food undoubtedly favors its development. In a certain number of cases it follows, or is engrafted on, severe intestinal disturbances, whether functional or organic. None of these things, however, afford a satisfactory explanation as to the origin of the disease. They are all common, but atrophy is rare. They all give rise to other conditions as well as to atrophy. Therefore, some other factor, presumably common to all cases and more important than these, must be present. This factor has not yet been discovered. The wasting of the tissues, which is the chief symptom of the disease, must be due, in the absence of demonstrable lesions, to an insufficient supply of nutriment. As in typical cases the processes of digestion are apparently carried on normally the source of this insufficient supply of nutriment must be some disturbance of the functions of absorption or assimilation. The nature of this disturbance of function and the causes, except as imperfectly detailed here, are at present unknown, the examination of the urine and feces having thus far failed to furnish any information of importance as to the character of the disturbances of either absorption or metabolism.

Pathological Anatomy.—The pathological findings afford little or no information as to the nature of the disease. All the tissues are dry and the fat is almost entirely wanting in the skin and about the internal organs. There is extreme atrophy of all the muscles. The heart is, as a rule, normal but may be fatty. The liver is not infrequently enlarged, and fatty. The kidneys are sometimes fatty and often contain uric-acid infarctions. These fatty changes in the various organs are undoubtedly merely secondary manifestations of the impaired nutrition. There is marked atrophy of the mucous and submucous coats of the intestines. Microscopical examination, however, fails to show any characteristic lesions. The superficial lymph-nodes are, as a rule, enlarged. The retroperitoneal and mesenteric nodes may be, but if so, show no abnormal changes microscopically. The lungs often show areas of atalectasis or the lesions of complicating bronchitis or bronchopneumonia, while the intestines may show those of a complicating catarrhal or follicular inflammation.

Symptoms and Course.—The one prominent symption of infantile atrophy is failure to gain or loss of weight. This is the earliest and for a time may be the only symptom. It is constant and progressive. In the typical case there are no

[1] Read at the annual meeting of the Massachusetts Medical Society, June 11, 1901.

symptoms of disturbed digestion. The appetite is, as a rule, diminished but may be voracious. Thirst is increased. Vomiting is unusual. The stools are normal or constipated. The child is usually quiet and apathetic, but may be peevish and irritable. The temperature is normal or subnormal. Sooner or later complicating functional disturbances of digestion or inflammatory conditions of the gastro-enteric tract arise and add vomiting, diarrhea, colic and fever to the list of symptoms. These may be acute or chronic, temporary or lasting.

The picture of an advanced case of atrophy is very characteristic. The fontanelle is small and sunken. The bones of the skull overlap. The face is pinched, the chin pointed, the bones prominent and the skin wrinkled, especially about the mouth and forehead. A cry is distressing; a smile dreadful. The eyes are wide open and staring or half closed and dull. The cry is feeble and the movements slow and infrequent. The tongue is thickly coated or dry and red, while the mucous membrane of the mouth may show herpetic lesions or those of thrush. The skin, everywhere wrinkled, yellowish, dry and desquamating, hangs in folds from the bony prominences, as if draped over the skeleton. Pustules on the scalp and body and intertrigo about the genitalia and buttocks are common, while there is often an excessive growth of lanugo on the neck and back. Ecchymoses occur not infrequently. The abdomen is sunken and lax. The extremities are cold, the hands look like claws, and the muscles like strings. Rigidity of the extremities is not uncommon, presumably as the result of cerebral anemia. Edema sometimes occurs. Chronic otitis media is not infrequent.

Emaciation continues, the strength steadily fails, and finally the child becomes too feeble to suck. The action of the heart becomes weak and the circulation poor. The pulse is feeble and rapid, although sometimes slow. The extremities become cold and cyanotic and pulmonary atelectasis develops. The respiration is weak and superficial and the temperature subnormal. Death finally occurs after gradual, progressive failure. In some instances sinus thrombosis results from the feeble circulation and death may be preceded by spastic phenomena or convulsions. Functional and inflammatory disorders of the gastro-enteric tract are frequent and serious complications. Bronchitis and bronchopneumonia are not unusual complications, while an acute, general, bacterial infection often brings the disease to a sudden close.

The urine is usually diminished in amount and contains an excess of both urea and uric acid. It not infrequently contains albumin and sometimes sugar. The blood shows the conditions ordinarily found in secondary anemia. In some cases there is also a moderate increase in the number of white corpuscles.

Diagnosis.—The condition is to be differentiated from starvation, wasting secondary to functional or organic disease of the stomach or intestine, congenital syphilis and disseminated tuberculosis.

The differentiation from starvation due to congenital deformities is self-evident; that from starvation due to insufficient but suitable food is also plain. The rapid gain when sufficient food is given will settle any doubt. That from starvation due to food of improper character can usually be readily made by a careful consideration of the food in question and by the rapid improvement when a suitable food is given.

The differentiation from gastro-intestinal diseases associated with wasting must often be a difficult one, as infantile atrophy is frequently complicated by them. In them, however, the wasting is not the one prominent symptom, as it is in infantile atrophy. It is, moreover, not the earliest but a late symptom, always following other symptoms of gastric or intestinal disturbance. Vomiting and diarrhea are more common. The stools show evidences of indigestion and inflammation not present in those of infantile atrophy. The abdomen is, as a rule, distended. The temperature is usually elevated. There is fretfulness and sleeplessness instead of apathy. The course is not so progressively and uninterruptedly downward. Infantile atrophy in the vast majority of cases occurs in the first six months and rarely after the first year; the other conditions occur at any age.

The history of syphilis in the parents and the presence of other signs of syphilis, active or inactive, make the diagnosis from syphilis with emaciation easy.

The differentiation from disseminated tuberculosis, however, is frequently difficult and at times almost impossible, for in the tuberculosis of infancy the local symptoms are, as a rule, subordinate to the general. A family history of tuberculosis or of continued exposure is of certain but not of great importance. So also is a doubtful milk supply. The temperature is likely to be elevated in tuberculosis, but is not always. On the other hand, in some cases of infantile atrophy, especially if complicated, there is fever. Diarrhea cannot be considered as pointing especially to tuberculosis of the intestines, as it may as well be due to some complicating condition. Enlargement of the spleen is in favor of tuberculosis. Enlargement of the liver may occur in either. Râles are almost always present in the lungs of cases of atrophy as the result of congestion or edema or of a complicating bronchitis. Solidification of the lung is the most important point in the differential diagnosis, except in the rare instances in which tubercle bacilli can be demonstrated in the sputum or feces. Even solidification, however, may be due to a complicating bronchopneumonia.

Prognosis.—The prognosis is always grave. Most of the cases result fatally. If recovery takes place it is always slow and is usually interrupted by frequent relapses. When recovery takes place, however, it is complete and the

future development is not interfered with. Complicating functional or inflammatory disturbances of the gastro-enteric tract render the prognosis still more grave, as do diseases of the respiratory tract. Other diseases occurring in infants with atrophy carry a very bad prognosis. Secondary general bacterial infections always result fatally.

Treatment.—There is no known drug which has any specific action in infantile atrophy. As the condition is presumably due to some vice of absorption or assimilation the treatment must necessarily consist largely of regulation of the diet with the object of providing some food which can be easily absorbed and utilized by the individual infant. The same food will not fit every case. The best food and the one which is always to be tried first, if circumstances permit, is human breast milk. The best substitute for it is some modification of fresh cow's milk, prepared either at the laboratory or at home. Although there are no data based on scientific experiments to suggest in what way cow's milk should be best modified for these cases, clinical experience has shown that, as a rule, they do best on milks which contain a low percentage of fat, a moderate percentage of sugar and a moderate or somewhat high percentage of proteids. For some unknown reason they seem unable to utilize any but small amounts of fat and continue to lose if large quantities are given. Hence the treatment by large doses of cod-liver oil is not only useless but harmful. They do seem able, however, to make use of considerable amounts of proteids. The proportions which are best suited for the early treatment of the majority of these cases lie within the following limits:

Fat	0.50 to 1.00
Sugar	4.00 " 5.00
Proteids	1.00 " 2.00

Whey mixtures, furnishing, as they do, a considerable proportion of the proteids in the form of the more easily digestible and absorbable lactalbumin, are especially useful in giving these high percentages of proteids. Unfortunately, their preparation outside of the laboratory is decidedly difficult. A portion of the proteids may also be added to the milk mixtures in the form of egg-albumin, which is more easily absorbable than the milk proteids. Peptonizing the milk mixtures is also often useful.

While the proportions just given are those best suited to the average case, many do not do well on them. In such cases various modifications must be tried until one is found which suits the individual infant. Unfortunately, it is not infrequently impossible to find such a modification and the infant continues to lose and finally dies. In cases which improve it is usually possible to gradually increase the amount of fat in the food and finally work up to the proportions which are suitable for a normal child of the same age. In beginning treatment it is best to give small amounts of food at short intervals. It is often advisable to give proteids apart from milk. They are best given in the form of egg-albumin or beef-juice. Somatose, in doses of five or ten grains, mixed with water, is also useful.

Due attention must be paid to cleanliness and to the maintenance of an unusual supply of fresh air and sunlight. It is especially important to keep up the body temperature, as the vitality of these infants is very low. They must not be handled more than is absolutely necessary and all excitement must be avoided. No point in the hygiene and nursing of these cases is so small as not to be of importance. Stimulation, preferably in the form of brandy or whiskey, is often necessary. Complications must be treated as they arise.

THE TREATMENT OF CYSTITIS.[1]

BY CHAS. CHASSAIGNAC, M.D.,

OF NEW ORLEANS;

PROFESSOR OF GENITO-URINARY AND RECTAL DISEASES, AND PRESIDENT OF THE NEW ORLEANS POLYCLINIC, ETC.

THE treatment of inflammation of the bladder depends to such an extent, in any given case, upon the form of inflammation to be dealt with that it is essential to consider the classification and etiology of the various clinical types of the disease. The principal ones are as follows: (1) Gonorrheal cystitis, (2) tuberculous cystitis, (3) cystitis of urethral stricture, (4) cystitis of prostatitis, (5) cystitis of calculus, (6) cystitis of tumor, (7) traumatic cystitis, (8) cystitis by direct infection, (9) descending cystitis, and (10) cystitis from ingestion of certain irritants. A mere enumeration of them suggests what is in all cases the first indication, namely, the removal of the cause when possible. However, before taking them up *seriatim,* it will be useful to study briefly the general indications applying to a greater or lesser degree to all forms of cystitis.

Rest.—In all instances quiet is of great utility. The more acute the case the more important is rest, preferably in the recumbent position, unless the base of the bladder chiefly is involved, when the patient may be more comfortable propped up in bed. Pressure on the bladder can be removed by causing the knees and thighs to be flexed. Under the head of rest should be included the avoidance of sexual intercourse and excitement of any kind.

Diet.—Bland food should always be insisted on. In very acute cases milk diet or a bread and milk diet is the most satisfactory. In less severe or more chronic cases, when a more liberal bill of fare can be allowed, very rich dishes and highly seasoned food should be strictly forbidden. Rhubarb, sorrel, asparagus, and truffles are considered harmful. Alcohol in any form is to be strictly prohibited. The patient should be encouraged to drink a large quantity of water in order to render the urine as bland and unirritating as possible. Alkaline waters are usually preferable, notably French Vichy and good lithia waters. Sugars and sweets are to be used only in

[1] Read before the Louisiana State Medical Society, 1901.

moderation. Tea, coffee, and tobacco should be avoided, if possible.

Laxatives.—The bowels should be kept gently open by means of mild laxatives and their condition must be watched, especially when opiates have to be administered. Any drug can be resorted to which acts gently on the patient, it being advisable to change the preparation from time to time if something has to be given often. Enemas are very useful and should be used either in conjunction with laxative remedies or to replace them.

Baths.—Hot baths, full or only to the waist, are of great utility by producing relaxation and relieving tenesmus. They should be given frequently, but should not be protracted. They assist also in diluting the urine by causing some absorption of water.

Hot Applications.—Heat applied over the bladder by means of water-bags, or poultices, or compresses wrung out of hot water, produces a great deal of comfort, diminishing pain, tenesmus, and frequency of micturition. Hot-water enemas serve the same purpose, in addition to unloading the bowels.

Intravesical Irrigations.—Frequent washing of the bladder with warm, mild antiseptic fluids often prove curative as well as palliative. They can be made either by means of the catheter or by the Janet method directly through the urethra by pressure into the bladder. I am partial to the latter on account of its convenience and also because contact with any sort of catheter is likely to prove painful and irritating. In either instance, mild solutions should be used with great care. In acute cases the bladder should never be distended. Fluid should be allowed to run in only to the point of toleration, then evacuated, after which more can be introduced and expelled in succession for a number of times, unless pain is provoked. In chronic cases more in proportion can be allowed to enter, as the bladder is a little more tolerant and it is often useful to bring about a gradual distention of the bladder; the injection or irrigation then becomes a sort of gymnastic exercise.

Alkalines.—Their administration is useful in neutralizing the normal acidity of the urine, hence diminishing its irritating properties. They should not be pushed beyond producing neutral urine and should be omitted in cases in which the urine is already alkaline. Citrate of potassium, benzoate of sodium, and the alkaline waters already mentioned are probably the most valuable.

Anodynes.—The sensitiveness of the bladder and its frequent contraction from inability to retain any amount of urine provoke a good deal of suffering, particularly in acute cases, and the administration of anodynes becomes imperative. If the remedy can be given by the mouth, a good combination is codeine with hyoscyamus; to this can be added mild diuretics or any special medication indicated. If there is nausea or other contra-indication to administration by the mouth, suppositories of opium and belladonna can be introduced into the rectum at reasonable intervals; they act as a rule very promptly and efficiently, partly no doubt from their propinquity to the diseased organ. The danger of leading to a drug habit must be borne in mind, especially in cases having a tendency to chronicity, and the constipating effects must be combated as already mentioned.

Antiseptics Internally.—Most of the so-called urinary antiseptics can serve us in the majority of cases. They must be given cautiously in order not to cause irritation of the stomach and especially of the kidneys. Their relative value has been frequently discussed of late and the most effective are generally thought to be salol, urotropin, boric acid, and benzoic acid (or benzoates). Salol and boric acid in combination are my favorites. Urotropin may be added or used alone. It is often effective, but may provoke or keep up frequency in micturition.

All the above remedial measures are useful in all forms and at all stages of cystitis. They are more imperatively indicated in the acute cases and in the most acute have to be relied upon to produce a modification of the inflammation and the most painful symptoms before more special medication can be resorted to. This being understood, we can review rapidly our clinical classification and study special indications. The latter cannot be much more than mentioned as any detailed consideration would lengthen this paper to an unwarranted extent.

Gonorrheal Cystitis.—The inflammation is nearly always due to the invasion from the urethra of the gonorrheal poison. Hence, in addition to general measures already mentioned, our efforts should be directed toward the inhibition or destruction of the specific organism. By the mouth we can give salol, the salicylates or boric acid. Oil of santal usually proves soothing, as it does in the urethra. Locally, irrigations of hot solutions of potassium permanganate are about the most satisfactory. At first, small quantities at a time should be used and the solution should be very mild, 1 to 10,000 or 8,000 at most; as improvement is manifested, the palliative measures can be gradually dispensed with and the quantity and strength of the solution can be progressively increased.

Tuberculous Cystitis.—By the mouth, the preparations of creosote are indicated, in addition to general tonics that are not distinctly stimulating. Irrigations with solutions of bichloride of mercury and nitrate of silver have been recommended, as well as instillations of small quantities of strong solutions of the latter. Injections of emulsions of iodoform have been found useful. The possible benefits from change of climate and from the exhibition of some of the modified tuberculins, as in other manifestations of tuberculosis, should not be neglected. The prognosis, however, is not good. If a cystoscopic examination should reveal the presence of ulceration, the patient's general condition being fair, a suprapubic cystotomy would be indicated in the

male. This will facilitate curettage and topical applications; the latter procedure and the applications can be made in the female after dilatation of the urethra.

Cystitis of Urethral Stricture.—The constriction, impeding the normal outflow of urine, increases the contractions of the *detrusor urinæ* and produces congestion; partial retention usually occurs to aggravate matters and the inflammation which always exists in the urethra back of the constriction readily spreads to the bladder proper. In addition to general measures, treatment of the stricture includes everything. According to circumstances, gradual dilatation, electrolysis, internal urethrotomy, or external urethrotomy can be selected. Complete evacuation of the bladder must be assured promptly; the more severe the cystitis and the longer its duration, the more we should incline toward operative measures and do them promptly and radically.

Cystitis of Prostatitis.—This is analogous to that produced by stricture of the urethra and the indications are the same, except, of course, that the operative measures must be directed to the prostate. The latter can be enucleated, preferably by the combined suprapubic and perineal method, or can be acted upon by the cautery after the method of Bottini. Much can be done in palliation by relieving the bladder of residual urine by means of careful catheterization at proper intervals, by irrigations, and by the cautious administration of urinary antiseptics.

Cystitis of Calculus.—Removal of the offending body either by lithotrity or suprapubic cystotomy is the treatment. If the cystitis is very pronounced and of long standing, we have a strong argument in favor of the cutting operation.

Cystitis of Tumor.—If the case is operable, removal of the tumor by the most available route and method removes the cause and general measures do the rest. If the tumor cannot be successfully removed, palliation alone is possible. In malignant tumors, if circumstances justify it, the bold surgeon can consider the removal of the bladder with transplantation of the ureters, but these growths almost invariably recur.

Traumatic Cystitis.—This form of cystitis is due to injury from external sources, such as gunshot, incised or punctured wounds, lacerations from fragments of fractured bone, or to internal injury, such as violent instrumentation, and the treatment must be based upon the principles of general antiseptic and aseptic surgery. The special indication is to keep the organ well drained in order to avoid complications due to leakage of urine. General measures already mapped out are useful and often necessary.

Cystitis by Direct Infection.—As this is generally provoked by the entrance of a poison of some sort directly into the bladder by means of an unclean catheter, bougie, searcher, trocar, or cystoscope, the special feature is more in the direction of prevention than of cure. All vesical instruments, and all urethral instruments as well, should be thoroughly sterilized before introduction. The urethra should be thoroughly irrigated, the glans and meatus receiving careful attention. The surgeon's hands should be surgically clean. Special attention should be paid to the lubricant used. After harm is done, ordinary measures will suffice, adding thereto any special feature made necessary by the character of the infection if such be specific. As an illustration of my meaning, I may cite a case of cystitis caused by the introduction of a sound previously used in a case of chronic gonorrhea and not properly sterilized. Such would necessarily have to be treated like any other attack of gonorrheal cystitis. The bacillus coli communis has been known to infect the bladder by direct penetration therein. Antiseptic irrigations, assisted by general measures, control the inflammation.

Descending Cystitis.—Inflammation in the kidney, the ureter, or both, traveling downward finally invades the bladder, or the secretion itself directly produces cystitis which, be it said parenthetically, often clouds the diagnosis as much as the urine. Treatment of the bladder can only give temporary results. A cure can follow only a healing of the ureter and kidney or the removal of same if necessary.

Cystitis from Irritants Taken Internally.—This form is easily controlled by a discontinuance of the drug or other offending substance and by the general measures to which allusion has repeatedly been made. Turpentine and cantharides are most likely to offend. Their use internally or over the skin must be watched and must be discontinued at the first sign of vesical irritation. A sometimes puzzling manifestation of the effects of cantharides follows the enjoyment of papabotes (a southern sand-piper) that have indulged in a copious meal of Spanish flies. I have frequently seen patients, otherwise well, very much alarmed by a sudden and severe attack due to this cause.

MEDICINAL TREATMENT OF DIABETES MELLITUS.[1]

BY ARCHIBALD DIXON, M.D.,
OF HENDERSON, KY.

SINCE the classical monograph of Von Noorden and the exhaustive articles by Pavy, Williamson and Naunyn, it would be not only an act of supererogation but also one of extreme vanity to attempt to discuss the subject of diabetes mellitus in all its phases. It will suffice to say that diabetes "is a disorder of nutrition in which sugar accumulates in the blood and is excreted in the urine, the daily amount of which is greatly increased."

The cause of the disease may be briefly stated as due to altered or faulty metabolism. I shall not take up the general treatment of this most intractable disease, but will merely give some results which have followed the administration of

[1] Read before the Ohio Valley Medical Association, Henderson, Ky., May 13, 1901.

a certain remedy to a number of patients in my charge.

In speaking of the treatment of diabetes even from a medical standpoint, one can hardly afford to ignore the question of diet. The main object to be accomplished is the reduction of the carbohydrates as far as may be. It is not possible to do this absolutely for any length of time, nor indeed do I think it necessary, but by a careful selection of food the amount of starch taken can be reduced to a very small quantity. It is, of course, necessary in each case to write out and give to the patient careful directions as to diet, but we all know how distasteful a strictly diabetic diet becomes and how difficult a matter it is to confine a patient to it, in fact, I think this is rarely, if ever, done, except in cases of exceptional severity when the patient is himself alarmed. In mild cases when the amount of sugar is small and is, as so often happens, associated with gout, all that is needed is that the patient be given a diet suited for that malady. We often encounter cases in which although much starch occasions glycosuria, a small quantity will not do so, the amount of the disturbance of the glycogenic function being slight. It is therefore important to discover in case of any individual patient how much, if any, starch he can consume without increase of sugar in the urine. He should be allowed to take a certain small quantity of starchy food and if no increase of sugar results a little more may be given, and in this way we may learn what quantity of starch it is safe to give. In a number of my cases there was no strict adherence to rules of diet, and in two cases the patients took both bread and potatoes and other interdicted things as well.

One or two successful cases are not enough to warrant judgment of the merits of any drug; case after case must yield to it after obstinately resisting other therapeutic measures before we can confidently state its worth. If a remedy can be found to control the excessive loss of fluid which is going on in diabetes and to improve the general condition of the system, in other words, to correct a faulty metabolism, we may reasonably hope, with a careful diet and regimen, to prolong life for many years in comfort, if not to cure disease itself. Such a remedy I believe we have in a combination of bromide of gold and arsenic. It is probable that the deductions made by Stucky after many experiments are correct and that in the combination of gold and arsenic we have an agent which is a direct cerebrospinal stimulant, one that stimulates the capillary system though its action upon the central nervous system, thereby being indirectly a heart stimulant. By this combination there is developed an action entirely different from either gold or arsenic separately, so far as we know at this time, which by its glandular stimulating properties aids elimination, feeds the nervous system, thereby checking waste, stimulates the cord, brain, and glandular system, thereby stimulating digestion, and by its reconstructive power lessens disturbances of metabolism

The results obtained in the following cases go far toward establishing as facts the claims made.

Case I.—G. B., aged fifty-eight years, former railroad man, experienced good health till the fall of 1899, when he began to notice a lack of energy and an increased action of his kidneys; however his appetite was good and he slept fairly well and perhaps gained in flesh. In April, 1900, he was told by a medical man that his kidneys were sound, although at this period he passed an excessive quantity of urine. For many years he was addicted to drinking a great deal of beer, but had lately reformed. During the summer he became very weak and languid, lost flesh and had no appetite. In November last, when I saw him for the first time, he was so feeble that he could with difficulty walk across the room and was very worn and emaciated. He was afraid to eat from the extreme flatulence and inability to digest food. The action of the heart was weak. The liver was appreciably enlarged and there was considerable fluid in the peritoneal cavity. The superficial veins of the abdomen were enlarged, the legs were anasarcous, shining and pitting on pressure. The specific gravity of his urine was found to be 1045 and it was loaded with sugar. During the day and night he passed about twelve pints of pale straw-colored urine. Nitro-muriatic acid, with taraxacum and gentian, was ordered and he was directed to drink a little Scotch whiskey and water. In addition he was to have ½ grain of codeine night and morning, which was to be gradually increased till effect. December 10th, as he was not making any satisfactory progress, I prescribed arsenauro in 5-drop doses three times a day, to be increased 2 drops each day until further orders. In ten days a remarkable change for the better had set in; the urine was reduced in quantity and the appetite and strength improved. He was now taking 23-drop doses 3 times daily, which was directed to be continued without further increase.

URINE PASSED IN TWENTY-FOUR HOURS.

Date.	Quantity.	Specific Gravity.
Nov. 12, 1900	12 pints,	1045
Dec. 10, 1900	11 "	1040
Jan. 14, 1901	6 "	1030
Jan. 28, 1901	5 "	1024

February 3d.—He has increased fifteen pounds in weight and looks altogether another man. His liver is greatly reduced in size and the abdominal veins are much less prominently marked. No fluid can be detected in the cavity of the abdomen and the tympanites is very slight. There is scarcely a trace of edema in the legs.

In March the patient was so far improved as to consider himself well.

Case II.—H. L., coal-dealer, aged forty-seven years, was seen by me December 11, 1900. He had all the essential symptoms of diabetes, polydipsia, polyuria, polyphagia, and in addition he complained of headache, pains in the lower extremities, dryness of the mouth, etc. Knows nothing of his family history; formerly drank to excess, but has been strictly temperate for the last ten years. Urinary examination: Specific gravity, 1039; sugar present in large quantity; albumen, none; quantity passed in twenty-four hours, 8 pints. He was given the usual instructions in regard to diet and bromide of arsenic and gold ordered in 5-drop doses three times daily, each dose to be increased 2 drops for a week, at which time he was to report.

December 28th.—Urine passed in twenty-four hours, 5 pints; specific gravity 1030, sugar present, but in reduced quantity; thirst greatly lessened and other symptoms improved.

There was steady and continued improvement in this case and the latter part of February, 1901, he was discharged, with instructions as to restrictions in diet. During almost the entire treatment the patient had eaten potatoes and violated the rules laid down by eating ordinary bread frequently. At the time of writing he says he is perfectly well.

In 1877 Lancereaux demonstrated the existence of a form of diabetes mellitus found in conjunction with pancreatic lesions. This, he claimed, constituted a special and distinctive variety of diabetes characterized by considerable emaciation, with polydipsia and polyphagia, by peculiar alvine evacuations, and especially by a very rapid evolution. The study of Lancereaux has been made the basis of further investigations which have led to the discovery of new facts in this connection.

Various kinds of pancreatic alterations may be regarded as leading to this kind of diabetes. They may be primary lesions or they may be the secondary result of the presence of calculi or they may be caused by compression of the ducts due to neoplasms. In all such cases there appears to be a total abolition of the pancreatic function. This suppression of a digestive function is revealed by special symptoms which may occur previous to the usual diabetic phenomena; these ordinarily consist of grave intestinal disturbances, vertigo, vomiting and frequently jaundice. True, these symptoms after a while disappear, but they leave the patient in a condition of profound debility.

Soon, however, the essential symptoms of the disease begin to manifest themselves and are rapidly established, reaching an acme in a few weeks or months. Diarrhea is often if not always present, the stools having a greasy, creamy appearance. Emaciation is rapid and in a few months the patients lose successively their physical, intellectual and genital powers. Then complete prostration and profound marasmus set in, to which there is often added hectic fever with symptoms of consumption.

The theory of Lepiné of Lyons is that the pancreas produces a ferment which enters the circulation and causes a breaking-up of the grape-sugar molecules within the blood. He calls this "glycolytic ferment." After extirpation of the pancreas this ferment is not present; the sugar therefore accumulates undestroyed in the blood, and from this hyperglycemia so produced glycosuria results. Mering and Minkowski do not accept this theory *in toto*, but after excluding all other possibilities formulate the following hypothesis: "Either some substance which has an injurious influence upon the conversion of sugar collects in the organism after extirpation of the pancreas, or else after this operation there is some substance wanting, or some function is abolished which under normal conditions serves to facilitate the conversion of carbohydrate bodies."

The following is a typical case:

Mrs W., aged fifty-nine years, Jewess. Father died from kidney trouble; other family history unknown. Consulted me October 29,1900, for a diarrhea which had been present for some time and which had resisted the ordinary home treatment. The stools were described by her to be frequent, painless and not large, greasy and creamy in appearance. Latterly the stomach had become disturbed and there was occasional vomiting. She also complained of swimming in the head and there was slight jaundice. Tongue was clean, red and slick; abdomen tympanitic and the area of liver dulness larger than normal. Appetite was fairly good, but there was progressive loss of flesh and energy. Gastro-intestinal indigestion was diagnosed and appropriate treatment given. High enemas were ordered to be taken daily and strict rules of diet urged. Improvement was slow and unsatisfactory; loss of weight continued, though not so rapidly as before. In December the diarrhea became much better and there was less gastric disturbance; the jaundice had disappeared and there was only occasional vertigo, slight in character.

I saw this patient no more until January 15, 1901, when she again consulted me, but for an entirely different set of symptoms. She now complained of great thirst, parched mouth and excessive micturition; in fact, she gave all of the essential symptoms of diabetes. Upon examination the urine was found to have a specific gravity of 1042 and sugar was present in large quantity—3 per cent. She complained of great weakness and was irritable and cross. An especially annoying symptom was excessive and almost constant pruritus due to eczema of the vulva.

Treatment was bromide of gold and arsenic (arsenauro), 5 drops after each meal, to be increased 2 drops to the dose each day. She was given the usual written directions as to diet. Notwithstanding flagrant violation of orders, the patient eating ordinary bread and potatoes in addition every day, the improvement in her case was marked. The decrease in the quantity of urine passed and in the amount of sugar present was evident the first week. In three weeks there

was barely a trace of sugar and the urine was much reduced in quantity.

March 15th.—Urine normal in quantity; sugar, negative. The eczema has disappeared and there is no pruritus. Patient much improved in strength and has gained seventeen pounds in weight; says she is well and to all appearances is so. She was dismissed with instructions to continue the drug in 5-drop doses, three times daily for a month, and to avoid carbohydrates for six months.

The number of drugs which have been recommended in the treatment of diabetes is legion—an evidence of the small benefit of any individual one. Even the most optimistic believers in materia medica, rendered cautious by oft repeated disappointments, become skeptical when any one praises a remedy for diabetes. The question is not whether many drugs are not useful and even necessary in diabetes in order to meet one or another of the special indications or to combat the complications, but rather whether we possess any remedy which can increase the energy of the sugar-destroying function. It often seems as though we did possess such a remedy in the combination of gold and arsenic, but favorable results are rarely observed when the rule of making no change whatever in the diet either before, during or after the administration of the remedy under trial, is strictly adhered to. A number of patients under treatment by me with these drugs have followed no rules of diet; others have frequently violated the rules given and have partaken of carbohydrates to a greater or less extent, but notwithstanding have been given great comfort; their self-confidence has been increased, worry diminished, sleep restored, and the subjective symptoms greatly improved—and all of these are unquestionably factors of far-reaching importance in regard to glycosuria.

MEDICAL PROGRESS.

Bipolar Version.—In spite of the greater infantile mortality, H. D. FRY (*N. Y. Med. Jour.*, Aug. 17, 1901) prefers bipolar version with slow extraction to *accouchement forcé* in the treatment of placenta prævia. The advantage of the version is the ability to perform it successfully with very little dilatation and consequently with less loss of bood. At the same time there is greatly decreased maternal risk.

Treatment of Diabetic Coma.—Life-saving potency has been attributed to various methods of treatment of diabetic coma; among these methods is the administration of large quantities of sodium bicarbonate. In an analysis of reported cases, L. SCHWARTZ (*Prager med. Woch.*, Aug. 1, 1901) accepts but four cases as beyond criticism; these cases were children, to whom an exceptionally large quantity of soda can be administered in proportion to body-weight. Three cases of diabetic coma were observed by Schwarz. In two of these cases a sodium salt of gluconic acid was added to the usual alkaline treatment, with successful outcome; the third case was treated by the alkaline method alone, with fatal issue. Gluconic acid appears to have the property of diminishing the production of the pathological substances which cause diabetic coma. In this connection the close relation between gluconic acid and the carbohydrates is alluded to. In acetonuria without coma, a given quantity of gluconic acid will control far better than an equal amount of grape sugar, the appearance of acetone in the urine.

Disinfection Researches with Lysoform.—Among the disinfectants used by clinicians during the past few years lysol has taken a fairly prominent place. It is but slightly irritating when employed in a one- to three-per-cent. aqueous solution and possesses a tolerably high disinfecting power in such dilution. Its poisonous properties have, however, somewhat limited its use. Lysoform, a formalin derivative, has recently been advocated as a disinfectant for clinical use on account of its non-poisonous properties which are combined with a fair degree of bactericidal power. It is a yellow fluid of an oily consistency, freely soluble in water and alcohol and possesses none of the irritating properties of formalin. It is odorless. When mixed with ordinary water the solution is somewhat cloudy in appearance, but this has no significance. SYMANSKI (*Ztschrift f. Hyg. u. Inf.*, July 31, 1901) has added urine to ordinary bouillon and incubated this for two days. This mixture was then in a state of active putrefaction. Microscopical examination showed the presence of both spore-forming and non-spore-forming organisms. He then tested the comparative power of lysoform and lysol against these organisms. In a separate series of investigations he added from .01 c.c. to 1. c.c. of these agents to 100 c.c. of the putrefying mixture, protected this from the light and maintained it at the ordinary room temperature. After twenty-four, thirty-six and seventy-two hours respectively "platings" were made from this into glycerin-agar. None of the lysoform plates were sterile, while the lysol plates taken from the .5 c.c. to 1 c.c. mixtures did not show the presence of any organisms. The bactericidal power of the stronger lysoform and the weaker lysol solutions were about the same. The deodorizing power of lysoform was much greater than that of lysol. Experiments with highly albuminous liquids showed that in such lysoform possesses very little antiseptic power, plates made from five-per-cent. solutions showing about 5,000 colonies per plate. Tested on spore-forming anthrax bacilli of moderate resistance, plates from two-per-cent. to three-per-cent. lysol solutions were sterile and the same result was obtained with three-per-cent. to five-per-cent. lysoform solutions. Inoculation experiments on mice and guinea-pigs demonstrated that lysoform possesses very little poisonous properties for them.

Cytodiagnosis in Meningeal Disease.—Since 1896 means of cytodiagnosis have been persist-

ently sought, and the method has been applied to various pathological states. X. LEWKOWICZ (*La Presse Méd.*, Aug. 17, 1901) has studied the cellular content of the cerebrospinal fluid in cases of meningitis. While Widal believes that normal cerebrospinal fluid contains no cellular element, Lewkowicz asserts that a few lymphocytes may always be found in such fluid. The latter differs with Widal also concerning the character of the cells found in tuberculous meningitis. According to Widal these are always lymphocytes, while Lewkowicz states that in 20 per cent. of the cases examined by him polynuclear cells were chiefly present, with only a small representation of lymphocytes (11 to 16 per cent.). The question is asked whether a cancerous tumor of the meninges or the changes occurring in early stages of general paralysis do not probably cause characteristic modifications of the cerebrospinal fluid and its cells.

Indications for Operation in Gastric Ulcer.—As the risks of operation diminish, we have frequently to readjust our ideas as to the persistence with which medical treatment must be tried before resort is had to surgery. The present indications for operation in cases of gastric ulcer are stated as follows by A. T. CABOT (*Boston Med. and Surg. Jour.*, Aug. 29, 1901): (1) Acute hemorrhages should rarely be treated by operation; the results of interference have not been good, while satisfactory results have followed medical treatment; frequently repeated hemorrhage, even if severe, will demand operative treatment. (2) Small frequent hemorrhages, threatening anemia, indicate operations. (3) Perforation of the stomach, whether acute with general peritonitis, or chronic with adhesions and perigastritis, demands operation. (4) When an ulcer runs a chronic course and gradually diminishes the patient's capacity for work and enjoyment of life, an operation is indicated, especially when the patient is dependent on his daily work for support and is unable to regulate closely his diet.

Metastatic Choroiditis in Pneumonia.—This is not a very frequent complication of pneumonia, but six cases are reported by C. S. BULL (*Med. Rec.*, Aug. 31, 1901) and it is of such grave import that the condition should be readily recognized. The disease is characterized by pain in the eye and head, intense vascular congestion and rapid and total loss of sight. Intra-ocular pressure is at first raised and then diminished much below normal even when no perforation occurs. The course is from three to six weeks and the prognosis bad, the case ending with total blindness and a shrunken eyeball. The lesion is usually bilateral, signifying the constitutional character of the infection.

Agglutinating Substances.—These have of late been the subject of much investigation and many hypotheses have been advanced in regard to them. It has been held that these substances are present only in the superficial layers of microorganisms and that the process of agglutination is nothing more than a variety of coagulation. F. C. HARRISON (*Centblt. f. Bäk.*, July 31, 1901) has recently studied this subject along somewhat new lines. He experimented with the pyocyaneus and typhoid bacilli by dissolving their superficial layers, but leaving the internal nuclear portion intact. His work shows that the agglutines exist entirely in the external layers of these organisms and that when these are removed the remaining portions are incapable of giving a reaction even with a very powerful serum. He thus endorses and amplifies Nicolli's hypothesis that agglutination consists in the coagulation and coalescence of the external layers of agglutinating organisms.

Symptoms and Treatment of Nitrobenzol Poisoning.—Reliable symptoms of nitrobenzol poisoning are the characteristic odor about the mouth and the associated cyanosis. When large doses are taken stupor is present, or even total loss of consciousness, together with a rapid pulse and respiration. A latent period of about 30 minutes follows the administration of this poison by mouth, owing to its insolubility in water and in gastric juice. An occasional symptom is hematogenous icterus, and numerous nervous symptoms are possible, including headache, vomiting, ringing in the ears, vertigo, pupillary alterations, palpitation, stammering, convulsions. In cases cited by V. SIMERKA (*Wien. klin. Rund.*, Aug. 11, 1901) fatal doses were respectively 150, 20, 15 grams. In treatment the first essential is prompt stomach-washing. Wine or milk must not be given on account of the solubility of nitrobenzol in fats and in alcohol.

Typhoid Bacilli in Sputum.—The sputa of eleven typhoid patients were examined for typhoid bacilli by P. EDEL (*Fortschr. d. Med.*, 1901, No. 14). In ten cases the patients suffered merely from a complicating bronchitis and typhoid bacilli were not found. In the eleventh case a bilateral pleural exudation occurred at the end of the third week. For several days following the development of the pleurisy the sputum continued bronchitic in character and contained no typhoid bacilli; the sputum then became hemorrhagic, and during ten days typhoid bacilli were found three times; later examinations were negative. The bloody sputum in this case did not resemble the characteristic rusty sputum of croupous pneumonia, but contained an admixture of bright red blood.

Actinomycosis Hominis.—A very unusual and interesting case of actinomycosis diagnosed before death is reported by G. FUTTERER (*N. Y. Med. Jour.*, Aug. 24, 1901). For seven years the man had suffered from attacks of pain in the epigastrium, severe in character, lasting a few hours and sometimes followed for a few days with clay stools. An operation four years previously had disclosed a caseous mass in the right epigastrium, which was removed and the wound healed quickly. Later a laparotomy showed many abdominal adhesions and some caseous material and persistent sinuses followed. For a year past, well-developed symptoms of phthisis pulmonis

have been present. In the discharge from the sinuses ray fungi were found, but none in the sputum. Autopsy showed that the liver substance, especially of the right lobe, had been almost entirely destroyed and that the process at this point was evidently continuous with a destructive lesion which involved nearly the whole right lung. It is supposed that the initial lesion was situated in that lung. Two yellow nodules were also found. At the bases of the tricuspid valves, developing along the course of the coronary artery of the heart. A distinguishing feature of peribronchitic actinomycosis is thought to be found in the sharply defined, sulphur-yellow rings which tend to grow inward and involve the lumen of the bronchus rather than the surrounding lung parenchyma, as happens in tuberculosis.

Treatment of Delirium Tremens.—Signs which can be relied on as indicative of approaching delirium tremens have long been sought. J. F. PERRY (*Boston Med. and Surg. Jour.*, Aug. 22, 1901) regards no sign as absolutely certain. Exceeding nervousness in a hard drinker is suggestive. A more valuable premonitory sign is said to be a more or less continuous dilation of the pupils for twenty-four hours before delirium commences. At Blue Hills Sanitarium reasonable quantities of their accustomed liquor are allowed to patients just admitted as chronic alcoics; the final withdrawal occurs on the third or fourth day, with gradual diminution of the supply during the intervening period. As a substitute for alcohol, ammonia, camphor or hyoscyamus is given. For excessive muscular tremor opium in small doses is administered every two hours. At the first sign of trouble an effort is made to get the patient to sleep; if six or eight hours of sleep can be obtained the delirium will usually be dissipated. Perry commends the use of small doses of chloral hydrate, at half-hour intervals, except where contra-indicated by the cardiac condition. Where chloral fails, chloralamid and paraldehyde will usually do no better, hyoscine hydrobromate may be more satisfactory, and in desperate cases musk is effectual, though expensive. When medication by mouth is refused, apomorphine, hyoscine and morphine are most useful hypodermatically. A delirious patient must not be disturbed when sleeping.

Bactericidal Power of Rabbit Serum in Anthrax.—According to the exponents of the alexin theory, natural immunity is due to the presence in the blood of certain protective substances. This is established by the fact that if bacteria are introduced into blood or blood serum *in vitrio* an inhibition of their growth is seen to take place and if the number of organisms so introduced is very small they very soon perish. The serum of different animals is known to vary in its bactericidal power according to the micro-organism with which it is brought into contact. The power of rabbit serum over anthrax bacilli has recently been studied by M. WILDE (*Z'tschrift f. Hygiene*, July 31, 1901). He investigated the effect of active and inactive rabbit and cow serum upon anthrax and typhoid bacilli and demonstrated that both active and inactive rabbit serum have an injurious action on anthrax bacilli which they do not possess for the typhoid organism and that cow serum has no deleterious effect upon either bacillus. His experiments were conducted by mixing typhoid and anthrax bouillon cultures with the various sera and subsequent "plating" in glucose-agar. In the anthrax infection of rabbits the great accumulation of the bacilli in the blood-vessels occurs in the death agony, during which the bactericidal power of the blood is either entirely lost or much diminished. In addition to the alexins there exists in the blood of most rabbits still another substance, probably only injurious to the anthrax bacillus, which is not destroyed, as are the alexins, by one-half hour's heating at 57° C., but which for its destruction requires twenty-four hours' exposure to this temperature.

Chromatopsia.—The production of chromatopsia may be due to a variety of causes, a consideration of which must precede intelligent treatment of this condition. As enumerated by H. CHALUPECKY (*Wiener klin. Rund.*, Aug. 11, 1901) the chief etiological factors are (*a*) general diseases: Here there may be a genuine anatomical foundation for the condition, as in icterus, or there may be a functional retinal disturbance due to malnutrition, as in exhausting febrile diseases. Failure of retinal adaptation, as yet vaguely understood, occurs also in hysteria, epilepsy, migraine; (*b*) intoxications; there may exist here a disturbance of the irritability of nerve-endings, due to direct action of the poison, or a failure of retinal adaptation connected with abnormal behavior of the retinal pigment; (*c*) diseases of the fundus; (*d*) dilatation of the pupil; (*e*) exposure to dazzling light. The existence of a special cortical center for color-sense, through irritation of which chromatopsia might be explained, cannot be accepted, according to this author, upon either practical or theoretical grounds.

Measurement of the External Urethral Orifice.—For the purpose of cystoscopic examination, catheterization of the ureters and the like in females, it is important to know what is the largest cystoscope which can be used without injury to the urethra. In a normal urethra the greatest resistance is met with at the external orifice. Measurements of the external urethral orifice were made by G. BROWN MILLER (*Johns Hopkins Hosp. Bull.*, Aug., 1901) by means of the urethral calibrator of Kelly in 100 cases. The smallest orifice found measured .4 mm.; the patient was a woman who had borne eight children. Two urethræ, likewise in multiparous women, measured 12 mm. Average diameter of the meatus in 100 cases was 7.59 mm. Average diameter of meatus in multiparous women was 7.83 mm.

Diphtherial Infection from Well Persons Carrying Bacilli.—A case which illustrates important points concerning the contagiousness

of diphtheria is reported by F. A. WHITE (*Boston Med. and Surg. Jour.*, Aug. 29, 1901). The interesting features are as follows: Virulent bacilli were present for eighty-five days in the throat of a child who had a mild attack of diphtheria. Three months after the child's illness, after the premises had been twice fumigated, virulent bacilli were present in the throats of two out of four of the child's associates; these two associates did not have diphtheria, although they carried virulent bacilli in their throats for a long time. The persons not showing bacilli in the throat were of ages when infection is less likely to occur (six months and twenty-five years); those showing bacilli were four years and eighteen years respectively. A child of four years was exposed for two days to the children having bacilli, and within five days this child developed diphtheria.

Ether in Removal of Ceruminous Plugs.—To remove ceruminous plugs from the external auditory canal various means have been used to soften or partly dissolve the mass. Alcohol, glycerin and salts of sodium and, of late, peroxide of hydrogen have been employed. E. L. MEIERHOF (*N. Y. Med. Jour.*, Aug. 24, 1901) has found that undiluted sulphuric ether poured from a small bottle or pipette acts in a few seconds so that the most gentle syringing is successful. No dizziness or ill-effects have been caused by this method, but the author recommends that a mixture of equal parts of alcohol and ether be used.

Suppurative Pyelophlebitis. — Comparatively little experimental research has been instituted with respect to this condition. The major part of the work hitherto done has been conducted by the employment of aerobic methods the results of which are non-conclusive in regard to fetid suppurative processes. CHARLES NORRIS (*Jour. Med. Research*, July, 1901) reports a case in the study of which anaerobic methods were chiefly employed. The disease ran an acute course, the clinical symptoms being daily chills, fever, delirium and stupor. At autopsy there were present calcareous degeneration of the coronary arteries, moderate congestion of the spleen and parenchymatous degeneration of the kidneys. The duodenum and pancreas were adherent. The head of the pancreas and the adjacent fatty tissue were firm and indurated. There was a small abscess near the thrombosed pancreatic vein. The liver weighed 6½ pounds and both lobes contained numerous small abscesses. The pus was white, thick and fetid and showed on microscopical examination no ameba, but two kinds of organisms, *viz.*, cocci and long, slender bacilli. These organisms were both anaerobic and were with great difficulty isolated in pure culture. The cocci were similar to the micrococcus fœtidus of Veillon and an anaerobic streptococcus described by Menge and Kroenig. The bacilli were not identified. Inoculation experiments with cultures of these organisms some time after isolation were negative. Sections and cover-slip preparations of the hepatic lesions showed the presence of both of these organisms; this fact, taken in conjunction with the abundant anaerobic growth and the sterile aerobic plates, shows that these organisms were the primary excitants of the condition and not merely concomitant factors. The necrotic thrombosis of the portal vein indicates that the point of entry of these organisms was through the venous circulation of the liver.

Antitoxin Treatment.—Much bitter feeling has been shown by the advocates and enemies of the antitoxin treatment of diphtheria. It is largely due, no doubt, to the unwillingness of both parties to view the question from a broad standpoint. A. RUPP (*Med. Rec.*, Aug. 31, 1901) suggests that there has been proven to be a great difference between the scientific and the practical methods of treatment. It is now generally admitted that the diphtheria antitoxin antagonizes only the diphtheria toxin and the amount of toxin in a person is an unknown quantity. Other bacilli besides those of Klebs-Loeffler can produce clinical diphtheria. Thus the antitoxin becomes a remedy of rather limited utility, but, no doubt, of specific value in selected cases.

Bacteriology of Lobular Pneumonia.—This subject has been relatively little studied in adults, most attention having been given to the disease in children, especially as a sequel of diphtheria and the acute exanthemata. GEO. BLUMER (*Pro. N. Y. Path. Soc.*, New Series, Vol. I., No. 2) reports the study of 71 cases of which 53 were adults. A great variety of organisms were present, but the streptococcus and the colon bacillus were the ones most frequently found. When compared with the results of other observers the pneumococcus and the pneumobacillus were rarely found. The frequency of the colon bacillus is probably to be ascribed to agonal or postmortem invasion. In 21 cases in which this organism was present, 12 showed a general invasion. In 37 cases in which other bacteria to the exclusion of the colon were found, 23 showed a general infection. A study of the bacteriology of normal, congested and edematous lungs is interesting. Four normal lungs all showed the presence of bacteria and in 2 there was a general systemic invasion. Four edematous lungs all contained bacteria, while only one showed general infection. Fourteen out of 20 acutely congested lungs showed the presence of micro-organisms and in all but 6 there was also a systemic infection. Seventeen lungs, both edematous and congested, showed 15 which contained bacteria in 9 of which there was a general infection. These results indicate that in cases of simple congestion and edema, as well as in lobular pneumonia, general infection is the rule. These organisms are perhaps carried to the lung by the general circulation, but it is impossible to deny that the opposite may sometimes be the case. As in many cases no bacterial lesion aside from the pulmonary one is found, it seems that the lungs are much more frequently the portal of entry in general infection than is generally supposed and this often without marked pulmonary lesion.

THERAPEUTIC HINTS.

Detachment of the Retina.—De Wecker evacuates the subretinal fluid with a sharp-pointed instrument with two blunt edges and shaped like a broad needle. This is extended through the sclerotic and choroid at a place corresponding to the detachment, but not so deeply as to reach the retina. Preferably a position near the equator of the globe and between two recti muscles should be selected. When the needle is inserted, it should be turned slightly so as to open up the tissues and let the fluid escape. A firm bandage is applied and the patient kept in bed for eight or ten days. In some cases, the dorsal decubitus for four or six weeks, with a pressure bandage on the eye, has been successful. The cure is only temporary, the most favorable cases being those due to choroiditis, while the least favorable are due to posterior staphyloma.—H. R. SWANZY in "Diseases of the Eye."

Syphilitic Iritis.—Von Graefe was fond of the following formula in syphilitic iritis:

℞ Hydrarg. biniodid .... gm. 0.4 (gr. vj)
Potass. iodid ..... 6.0 (℥iss)
Aq. destillat. ..... 15.0 (℥ss)
Syr. aurant. ad. ..... 90.0 (℥iij)

Pleurisy.—In the beginning, we try to lessen the pain and dyspnea, writes ADOLF STRUMPELL, by mustard plasters, warm poultices dry cups, chloroform liniment or in severe cases, by morphine. If an ice-bag is well borne, it tends to check the inflammation. Painting with iodine is of doubtful efficacy. An iodoform ointment, one to fifteen, or iodoform collodion is of more value. If a large effusion has formed we may try to lessen it with diuretics, such as acetate of potassium, squill, potassium and sodium tartrate, etc. If there is weak heart action, infusion of digitalis is best. Drastic purgatives, sodium salicylate, pilocarpine or hot packs remove fluid, but are depressing. The benefit from iodide of potassium is greatly overestimated. Only when the effusion is large should it be removed by aspiration. To prevent loss of strength, the patient should get sufficient easily digested food.—"Text-Book of Medicine."

Otitis Media.—Adopting the belief that all catarrhal affections of the Eustachian tube and middle ear, are due to, or promoted by an inflammation of the nasopharyngeal mucous membrane, we must direct treatment to this. Nitrate of silver is the best remedy, applied in solution on some cotton wound about a cotton-carrier. The cotton should be squeezed out after dipping it in the solution, or this may run down and cause spasm of the glottis. The mop should have the terminal inch bent at right angles, then with the pharyngeal cavity illuminated by a forehead mirror and the tongue depressed, the patient draws in a long breath, then breathes it out slowly through his nostrils. This causes relaxation of the palate muscles, and at this moment the mop is passed high up behind the soft palate, first toward one Eustachian orifice, then across toward the other. If there is much mucus, the above procedure must, of course, be preceded by dry mopping till the mucous membrane is fairly clean. For children of from four to eight years, the author begins with a 15-grain solution of silver nitrate increased to 25 grains to the ounce, and makes the applications every second day.—A. H. BUCK, in "Diseases of the Ear."

Parenchymatous Keratitis.—Ir the early stages no irritants should be applied, but atropine should be instilled to prevent iritis or posterior synechiæ. Warm moisture, in the form of poultices or fomentations, promotes vascularization, and hastens absorbtion of the cellular elements which form the opacity. When the acute stage is ended, yellow oxide ointment, and in both stages massage may be used to disperse the infiltration. In severe cases mercurial inunctions for several weeks would be advisable, and in mild cases, iodide of iron, cod-liver oil, etc. The author has had good results from hypodermic injections of perchloride of mercury, gm. 0.0015-0.003 (gr. 1-40—1-20), once a day. Blisters to the temple and other counterirritation only increase the patient's discomfort, without good to the eye.—H. R. SWANZY, in "Diseases of the Eye."

Pterygium.—This, a triangular vascularized thickening of the cornea, is best left alone, unless it be very thick, or has invaded the cornea, or is progressive. For its removal a strong silk suture is passed through two needles; one is passed under the pterygium close to the cornea, and the other at its base, the ligature being drawn half way through. The thread is cut close to each needle and the ligatures thus made, tied tightly. In four or five days the pterygium comes away. The excrescence may be dissected off with scissors or a fine scalpel, or a good plan is to pass a strabismus hook under the ptrygium when raised from the sclerotic, and forcibly to separate the corneal portion by drawing the hook under it. The dissection is continued toward the base, where it is finished by two convergent incisions.—H. R. SWANZY, in "Diseases of the Eye."

Cirrhosis of the Liver.—Of all the symptoms the results of portal congestion deserve the most consideration. The bodily vigor should be promoted, and the patient enjoy complete physical rest. In the milder cases, depletion is encouraged by salines or small doses of calomel, gm. 0.03-0.06 (gr. ½-i), two or three times a day. In severe cases, more drastic remedies may be needed. Diuretics are of great value, and, besides potassium acetate, squill, etc., we may use copaiba or its resin the dose of the latter being gm. 1.0 (gr. xv) daily. In some cases this remedy has caused marked diuresis, and accompanying diminution of the ascites. If there is great local discomfort or dyspnea owing to ascites, paracentesis may afford relief. The application of an elestic bandage after the fluid is removed may retard its reaccumulation.—A. STRUMPELL in "Text-Book of Medicine."

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SATURDAY, SEPTEMBER 14, 1901.

THE PRESENT AND THE PAST.

IN THIS week's issue of the MEDICAL NEWS we present to our readers a short authentic account of the surgical features of the recent shooting of President McKinley, gathered by one of our staff from those in charge of the patient at Buffalo. We also publish a short summary of the illness of President Garfield and wish here to point out some of the more important differences which come to mind in comparing two somewhat analogous surgical incidents.

From the very beginning the cases are not comparable, within strict lines, but there are undoubtedly certain features which reflect a great difference in surgical procedures of the present day and those of twenty years ago.

The modern modes of conveyance whereby an injured man is readily and easily conveyed to a hospital equipped with all necessary appliances suggest one phase of difference in the treatment of President McKinley in contrast with that of President Garfield. No surgeon in a large city at the present day, save in the most extreme emergency, would think of examining a wound without the proper facilities and under the strictest antiseptic precautions.

Temporary expedients are rejected by the modern operator who has, under the teachings of antiseptic surgery, practically no dread of doing almost anything in the way of operative interference. The immediate and fearless opening of the abdominal cavity, with the direct desire of seeing with the eyes the damage done by the missile, marks another step which the methods of twenty years ago would not permit.

Should it subsequently become necessary to find and extirpate the bullet in President McKinley, physical science has placed in our hands the means whereby it may be located with an accuracy beyond a doubt. Had the use of the Roentgen ray been among the acquisitions of a former generation, it is more than probable that the secondary hemorrhage which took the life of President Garfield would not have occurred and that the removal of the bullet in the early days of his illness, and the appreciation of the injury to the bony structures of the spinal column, which also might have been detected by the use of these light rays, would have resulted in more radical and successful surgery.

The surgeons of that day lived up to the fullest of their opportunities. Let us be thankful that medical research has raised the level of the opportunities of the present generation to a much higher plane.

THE CASE OF THE PRESIDENT AND THE SURGICAL LESSON OF THE HOUR.

THE attention of the entire professional and, for that matter, the lay world has been fixed for the past week upon the case of President McKinley, and the grave problems involved in the prognosis of penetrating wounds of the abdomen and perforating wounds of the stomach.

The day has gone by for serious discussion of the necessity for promptly opening the abdomen in every case of penetrating wound of its cavity, occurring in civil life at least, with the view of repairing the damage inflicted upon its contained viscera by the perforating missile.

That the members of the surgical branch of the profession, whose judgment is at all worth having, have looked with the fullest approval on the course pursued by those who are in immediate attendance upon the President, goes without saying. The recognition of the fact that prompt operative interference held out the very best, if not the only chance, stands out as the pivotal point upon which every consideration of the case must turn. The surgeons met the first question at issue, namely, as to whether or not

the missile had invaded the peritoneal cavity, by immediately placing the patient upon the operating-table in the Emergency Hospital and enlarging the wound of entrance in order to at once and satisfactorily clear up this point. This having been decided in the affirmative, the next enquiry naturally arose as to what damage had been done to the important viscera. Here, again, a thorough investigation cleared up this vital point. There was no guess-work about it; no waiting for the occurrence of so-called symptomatic indications for further interference, or the cry of the nation to "do something" for the illustrious sufferer. It was done with that true instinct which marks the course of the modern surgeon, and done, too, with a celerity and skill that has won for the surgery of the century new laurels. For this is not merely a personal gain for the individual who happened to wield the knife, although to him should be given every praise, any more than the favorable result, which at the time of writing seems to be assured, is the gain alone of the patient himself. As the whole American nation and, in addition, the world at large, is the gainer by the life saved, so will the entire medical profession profit by the lessons taught and the victory won.

Surgeons who are brought face to face with the conditions which confronted those who, in the first hour following the infliction of the dastardly blow, were responsible to a vast and highly intelligent, and ofttimes hypercritical people, will realize what passed through their minds. As the eye took in at a glance the small blue-edged opening in the abdominal wall, so the mind instantly grasped the many possibilities of danger involved in the missile's fight. Visions of a bleeding vessel in the omentum or mesentery and rapid loss of blood, with great probability of collapse and death, and of perforated viscera with the only too-certain sequel of septic peritonitis, must have passed in rapid panoramic procession before them, to say nothing of the sight of the millions with pallid faces, surging hearts and bated breath, whose concentrated gaze was turned toward the little emergency operating-room in the Queen City by the lake. To wait for symptoms of internal hemorrhage and hope that they would not appear was but to lean upon a broken reed. To postpone the saving touch until assured that infection had actually taken place would be throwing away golden moments, render the effort to save futile, and, because of this futility, lay those responsible open to the well-merited charge of cowardice. Useless would it have been to attempt to justify such a course by quoting ancient statistics designed to show that the mortality of interference was almost, if not quite as large, as non-interference, for the answer would at once have been made that, of those who recovered without operation, there was no proof that vessels or viscera had been injured, and of those who died there was a failure of the realization of the importance of time as a saving factor, and the element of proper technic evidently wanting; proper criticisms involving underlying principles and supporting the contention that in former times this most important question had not been decided upon its merits. Neither could they have urged that, proof of infection being wanting, they were not justified in interfering. This would have been met by the assertion, based upon the experience of many a surgeon in abdominal work, that to wait for peritonitis to supervene would only be waiting for an excuse to put the finishing touches to a scene already tragic in the extreme. To have endeavored to escape criticism by the assertion that no vomiting of blood had occurred, and hence the stomach had not been injured would have brought to light from the literature the cases in which perforation of the stomach, as revealed by operation, had taken place and in which vomiting, and even pain had been absent. To have quoted the statistics of the late war would have availed but little, since experience shows that the rapid traversing of the tissues by a projectile from a high muzzle-velocity modern firearm is a far different matter compared with the damage inflicted by a cheap low muzzle-velocity and black powder-driven, soft lead missile which forces its way comparatively slowly into the tissues, adding the damage of structures crowded and forced against each other to that due intrinsically to the missile itself.

All these things are matters of thought in the surgical mind of to-day. And when the public appreciate to some extent what surgery has done for a well-beloved President, let the tribute of praise for the clear head, the cool judgment, the courage, and the skilful hand that were the instruments in the victory over the assassin's deadly purpose, mingle with the realization of what the medical profession is to the world.

As to the features of the case from the purely scientific standpoint, there is but little to dwell upon. The triumphs of aseptic surgery are com-

mon enough, and the experience gained since the then obscure Glasgow surgeon first promulgated his teachings have been slowly but surely pointing to the hour when the greatest living representative of the greatest of the nations of the earth should receive the benefit of those teachings in the most impressive manner. And, if it shall be that success waits upon the efforts of those who are striving for the life of the President, let it not be forgotten to acknowledge the obligation for the genius of the father of modern surgery, Joseph Lister.

THE GENESIS OF THE CRANK.

IT HAS long been admitted by alienists as well as by enlightened jurists that it is desirable, if not necessary, to make a distinction between mental aberration or insanity as viewed from the standpoint of a well-rounded mental activity and mental aberration which involves the principle of responsibility. Thus we have an individual afflicted with medical insanity who may never become insane from the legal point of view simply because society does not sufficiently suffer to render it necessary to recognize an abnormal member.

We would hold that there is no ideal mind that may be used as a scale by which other minds should be measured, but would formulate the idea that sound mental action is based upon the prevailing customs of the times and as such is a reflection of the development of the major portion of a large community.

Those who move in the center of the great stream of human progress, contributing their little to the advancement of individual development, we deem as healthy and sane-minded people; a few there are who dream dreams, both little and great, of future perfections; those who dream possible dreams are the geniuses of our social fabric; those whose dreams are impossible of all fulfilment make up the large body of fanatics and cranks of which we would speak.

It is almost a commonplace to say that most of us are for the most part products of our surroundings, our dreams are colored by those about us and it is to one phase of our environment that attention should be called if we would know of the genesis of the particular kind of crank who has so foully shown how barbarous mankind can be.

Because it pays in dollars and cents to be a mouthpiece of discontent and because more money can be made by telling people cheap and tinseled versions of how to offset the inevitable instead of offering honest and manly counsel, we have in our midst a number of foul sheets of sentimentality which are veritable educators to violent and unjust deeds. We believe that our so-termed yellow journals are responsible in large part in keeping alive and introducing into men's minds the seditious principles of anarchy which bear such rotten fruits. We say this advisedly and with a keen appreciation of the psychological principles involved. That public press which distorts and sentimentalizes the smaller details of every-day life is responsible in large part for the mental unbalance of its readers in their judgment concerning the more complicated movements of society. If the facts of every-day life cannot be given to people of minor intelligence in a straightforward and honest manner, is it any wonder that such people fail to see relations as they should be seen and is it incomprehensible that unbalanced social reformers result from such mental training?

Rulers have been killed before printing-presses ever came into existence and they have been murdred for the very reasons that anarchy now preaches as its gospel. Individual leaders have always been found to pander to discontent and human greed. The mantle of the demagogue of old has fallen on the shoulders of the modern sensational press and murder and lust are still fostered beneath its folds.

THE MENTALLY UNBALANCED IN MODERN LIFE.

WITHIN the last three years the world has been aroused to bitterness and startled to the verge of irrational action and opinion by three dastardly attempts upon the lives of rulers. Two of them were unfortunately successful; the third, thanks to the skill of American surgery, now promises to be a happy failure. All three attacks were committed upon individuals whose dispositions were most kindly, whose lives had been free from any stain of personal wrong-doing and whose public careers were not of the character which tends to the making of personal enemies. In the cases of the Empress of Austria and the King of Italy the outrage that caused death was quite as wanton and uncalled for, and the criminals had quite as little personal reason for the attack as in the case of our happily recovering President.

A comparative, even superficial study of the characters of the criminals as disclosed by their history shows certain points of similarity. They

were moody, retiring individuals who made few friends and were largely thrown back upon themselves and their own thoughts during their moments of leisure. All of them seem to have had a craving for the notoriety that their act would bring them and an unfortunate delusion that somehow good would come out of it. Had they been men accustomed to confide in others there would have been some possibility of a correction of their delusion, or, failing that, some warning of the crime to come. None of them had any adequate motive for the crime and yet planned it as carefully and with as much shrewd adaptation of means to the end, as if they were about to perform a praiseworthy act.

In this country this is the third criminal attempt upon a ruler's life. The other two were committed by men whose histories evidently point them out as mentally unbalanced. As a matter of fact such men are not criminals so much as unfortunate human beings led by delusion into the commission of acts that, owing to the instruments of destruction which civilization puts so ready to hand, are much more serious in their consequences than unarmed delusion could effect. Power of evil is placed within reach of the unbalanced and the impulse to exercise it proves attractive to the aberrant fancy and leads on where difficulties would have deterred.

It would seem as though such occurrences must be more or less inevitable in our modern life, for the unbalanced we have always with us and the psychological moment that prepares so sad an occurrence as this may not easily be detected. Yet there are certain lessons that the event teaches, certain warnings that it emphasizes. When the struggle for life was severer than at present many more of the mentally unqualified were eliminated early in life. There is in our crowded world an ever-growing number of individuals to whom chance influences may prove the source of impulses to acts with consequences out of all proportion to the original motives, and it is to be regretted that this country has been chosen as an outlet for an immense number of this class, as well as a general rendezvous for criminals who cannot find a resting place in their own land. There is need, then, for a more thorough and honest control of immigration, and it daily becomes more apparent that not only those who suffer from physical ills and financial stress should be refused an entrance here, but those whose early surroundings and training have been such as to engender the seeds of antisocial conduct. A reconsideration then of the fundamental principles of our immigration laws is therefore a subject of great national concern.

There is, moreover, a further feature in our political system that, taken at its worst, fails most lamentable in the service for which it is created. Meant primarily for the protection of society, our police systems too readily develop a corps of individuals who prey on society, and whose highest ideal at times is expressed not as to the quality of service they can render to the body social, but as to how much they can get out of it. We hold it true that dishonest and corrupt officials, with authority, do much to foster the spirit of discontent and by their leniency in the systematic control of the vicious permit the development of the spirit that seeks to kill.

ECHOES AND NEWS.

NEW YORK.

Once More Dr. Doty and the Mosquitoes.—We learn from the daily press that a change of heart has come over Dr. Doty and that, whereas formerly no means were to be spared for their wholesale extermination, now he is raising them as household pets and further, is reported as being desirous of proving a number of things that are already known. We fear that there is too much press-agent science about this campaign, and would recommend a study of the careful methods now in process of operation by the officers of the Cold Spring Biological Laboratory in their coöperation with the North Side Protective Association on Long Island.

Association of Hospital Superintendents.—The third annual conference of the Association of Hospital Superintendents was begun Wednesday at the Murray Hill Hotel. Charles S. Howell, Superintendent of the West Pennsylvania Hospital of Pittsburg, called the delegates to order. After a brief prayer by the Rev. Dr. Cornelius L. Twing of Brooklyn, Randolph Guggenheimer, President of the Municipal Council, made the visiting superintendents welcome to the city. John W. Keller, Commissioner of Charities, invited the delegates to visit Bellevue and the City Island Hospitals. Various papers on hospital management were read and discussed.

Some Brief Notes Concerning the President's Surgeons at Buffalo.—Many of the practitioners in attendance on the President at Buffalo are well known to our readers. We add here, however, a brief comment on those who were actually engaged in the first emergencies.

Dr. Matthew Mann, who performed the operation for the most part, is well known to the readers of the MEDICAL NEWS. He is fifty-six years of age and is professor of gynecology at the University of Buffalo, and gynecologist at the Buffalo General Hospital, has attained a wide reputation through his standard textbook on gynecology. He is a park commissioner of the City of Buffalo. He has practised from thirty to thirty-five years in Buffalo and has a good reputation as an eminent abdominal surgeon. He was once an instructor at Harvard University.

Dr. Roswell Park needs no introduction. He is a surgeon of world-wide fame and author of "Park's System of Surgery," a standard work. He is also an acknowledged expert in cancer, being vitally interested in the laboratory at Buffalo from which Gaylord's recent researches have come. He is about forty-eight years of age and graduated from the Rush Medical College, of Chicago, some twenty-five years ago and for a time taught there. Subsequently he spent much time in European study and upon his return earned his present reputation as a rapid and clean operator, and is one of the few ambidextrous surgeons in practice. He is chief surgeon at the Buffalo General Hospital and professor of surgery at the University of Buffalo.

Dr. Herman Mynter is an older man, perhaps fifty-six, a Dane by birth and is well known in two continents as an expert abdominal surgeon. Mynter has given the profession an excellent work on appendicitis. Recently he went to Denmark and lectured on his chosen subject before the Danish Medical Congress at Copenhagen. He was formerly surgeon at the Sisters' Hospital and now operates at the German Deaconess Home at the new German Hospital.

Dr. John Parmenter is esteemed as one of the best and most careful of the younger surgeons in the western part of New York State. He is under forty years old and is professor of anatomy at the University of Buffalo.

Dr. Eugene Wasdin, surgeon of the Marine Hospital, Department of the United States, stationed here, will be remembered as one of the experts detailed to investigate yellow fever in Cuba during the recent war. He is about forty years of age and has been a constant contributor to the MEDICAL NEWS on hygiene and bacteriological topics.

Dr. T. W. Lee, of St. Louis, who assisted in the operation, is medical director of the Omaha Exposition and is a well known western surgeon.

Dr. Charles G. Stockton, of Buffalo, was called into consultation because of his store of medical knowledge. He is one of the leading medical practitioners of Buffalo.

Dr. N. W. Wilson, who was in charge of the Emergency Hospital at the time and who was in charge of the President until the surgeons arrived, won a reputation early in his career. He is and has been for three years post surgeon at Fort Porter, is connected with the staff of the Sisters' Hospital and is the sanitary officer of the Pan-American Exposition.

Dr. Presley M. Rixey, the physician to the McKinley family, who is with the President in Buffalo, is a medical inspector in the United States Navy. He is a Virginian, born in Culpeper in that State, and a brother of John Franklin Rixey, the Representative in Congress from the Eighth Virginia district. Dr. Rixey was appointed an assistant surgeon in the regular navy January 28, 1874. His first cruise was in the "Congress," attached to the Eastern station, and when his service on her was completed, in 1876, he was assigned to the Marine Hospital at Philadelphia, remaining there until the following year. His next service was at the Norfolk Navy Yard, and then in 1878 he was assigned to special service. Surgeon-General Bates, of the Navy, who had been Mrs. McKinley's physician in Washington when the President was in Congress and who had resumed that duty when the McKinleys moved into the White House, died in October, 1897. Gen. Leonard Wood, then an assistant surgeon in the army on duty in Washington, succeeded him as the White House physician, and when Gen. Wood went away from Washington as Colonel of the Rough Riders early in 1898, the President chose Dr. Rixey, and for three years he has been constantly in attendance on the President and his wife.

PHILADELPHIA.

Vacancy at University.—The chair of clinical professor of nervous diseases in the department of medicine of the University of Pennsylvania is vacant. Candidates for the position may send notice to the secretary of the Board of Trustees, Rev. Jesse Y. Burk, 400 Chestnut Street, Philadelphia, Pa., before September 28, 1901.

Typhoid Fever.—There is an epidemic of this disease at Bolivar, Penn. Last year hundreds were stricken at the same place. The water supply has been improved since then and at present only twenty cases are reported.

Anthrax.—There is an outbreak of anthrax at Forkville, Penn. Some dozens of cattle are affected and two men, brothers, who skinned one of the fatal cases, are in a serious condition as a result of infection.

Large Bequest to Hospitals.—The will of the late John D. Laukenau after providing for relatives, etc., leaves the residue of the estate to be divided between the German Hospital and the Mary J. Drexel Home. This will give each institution about $600,000. The Society for the Relief of Distressed Germans and the Mt. Airy Orphanage receive $5,000 each. Mr. Laukenau's nurse is bequeathed $2,500.

County Medical Society Divided.—A meeting is to be held at Broad Street and Columbia Avenue September 19th for the purpose of organizing what will be known as the North Branch of the Philadelphia County Medical Society. This step is being taken to increase the attendance at the meetings of the society. Of the 2,500 physicians in the city more than 800 are members of the Society. Only a small percentage of this number attend the meetings, the distance from the homes of a large number being too great. Meetings at two points will obviate this to some extent.

To Consider a New Laboratory.—The County Medical Societies and the State Medical Association of Pennsylvania will consider this month the following resolution: *Resolved,* That we are in favor of the establishment of a Psycho-Physiological Laboratory in the Department of the Interior at Washington for the practical application of physiological psychology to sociological and abnormal or pathological data, especially as found in institutions for the criminal, pauper, and defective classes and in hospitals, and also as may be observed in schools and other institutions.

Damages in Smallpox Cases.—The epidemic of smallpox in Pennsylvania has given rise to two interesting suits for damages. One was instituted by E. C. Myers and his wife against John Crum, a farmer, near Linglestown. Myers' brother while employed by Crum was taken with smallpox. Crum hauled him to Myers' residence, it is alleged, after learning the nature of the disease. As a result Myers, his wife, and their four children were stricken with the disease. While in the pest-house, Myers' old mother, uncared for at home, lost her reason and is now in an insane asylum. The Myers' suit against Crum is for $10,000 damages. The second suit has been brought against the borough of Ashland by Mrs. Elizabeth Burmeister. She claims $10,000 damages for the death of her husband from smallpox. The borough is charged with neglect in not organizing a Board of Health as required by law. The patient, it is claimed, was removed to a pest-house against protest, was uncared for, and was not allowed the services of a physician.

CHICAGO.

Canal Water for Analysis.—Samples of drainage canal water have been taken by Missouri and Illinois experts for analysis, the result to be used as evidence in the great drainage canal case pending before the Supreme Court of the United States between Illinois and Missouri. The samples are to be taken at the same time by both sides and at the same place, and it is expected that from the results reliable evidence will be obtained. In sixteen places along the great waterway from Chicago to St. Louis dippings will be made into the water, each side to analyze its own samples. This result was reached at a recent conference held in the rooms of the Sanitary District between experts from both States. The suggestion originated with Attorney-General Hamlin of this State, who was present with the following officials: Health Commissioner Arthur R. Reynolds, Chicago; Assistant Health Commissioner Reilly, Chicago; Ex-Judge Wm. M. Springer, Counsel of the Sanitary District in the case in the Federal Court; John G. Brennan, Special Counsel for the Sanitary District, and Attorney of the Illinois Central Railway Co., for Illinois, Indiana and Missouri; Dr. Amand Ravold, City Bacteriologist, St. Louis; Dr. Wm. C. Teichmann, City Chemist, St. Louis; and Dr. Adolph Gehrmann, City Bacteriologist, Chicago.

To Rid the State of Quacks.—The Illinois State Board of Health has announced to its attorney that it is about to take active measures for the suppression of quack doctors, dispensaries and medical institutes, whose advertisements enrich the daily papers and attract the ignorant masses. Several individuals have been summoned on the charge of practising medicine without license, and a hearing for the first cases is set for September 9th.

Status of Smallpox in Chicago.—According to the bulletin of the City Health Department, issued August 31st, for the first time in more than thirty months the City Isolation Hospital was empied of smallpox patients last week. Between March 9, 1899, the date of the first case of the series, and August 12, 1901, the date of the last admission, 342 cases of smallpox were discovered in the city, and removed to and treated in the Isolation Hospital. The last case was discharged, cured, August 28th, the resident physician relieved from duty, and the hospital closed. During the period a total of 960,588 persons were examined as to their vaccinal status by the medical inspectors of the Health Department and the public vaccinators, and 220,648 were vaccinated. The greatest number in any one month was 303,725 examined, and 44,904 vaccinated in February, 1901, since which time the disease has steadily declined until the city is now free from the pest. This is a very gratifying contrast to the exhibit made by other large cities of the country.

Improvement in Quality of Milk.—A marked improvement in the quality of the milk supply has followed the posting of the names and addresses of delinquent dealers and shippers, and the confiscation and destruction of adulterated supplies at the receiving stations of the railroad. When this course of action was begun, the proportion of samples tested in the laboratory and found below grade was 22 per cent. During the past four weeks this proportion has been respectively 13.3, 10.5, 10, and last week it was only 6.6 per cent. Some share of the recent great improvement is undoubtedly due to the rains, which have helped pasturage, but that the action of the milk bureau is the impor-

tant factor is shown by the fact that the improvement began before the rains.

Volunteer Medical Inspections.—Dr. John R. Neely, Assistant Chief Medical Inspector of the Department of Health, writing on this subject, states that since these inspections began 10,188 homes have been visited, where lodged 38,966 inmates. There were found 750 cases of sickness, many of which, including cases of contagious diseases, were without medical attendance. The infected homes had not been disinfected, and were foci for the further spread of contagion. The inspection has revealed 5,707 insanitary conditions of all descriptions from unventilated domiciles to the vilest and filthiest of overflowing vaults. These conditions were corrected, largely by the householders, who were impelled to such duty when the danger was made obvious by the earnest and persistent inspector, or more serious defects were corrected through the proper city department. The inspection has been particularly valuable this summer, when so much apprehension existed of the dangers lurking in milk and ice. Especial attention was directed to these articles, and to securing for the people pure and reliable supplies. Investigation by this corps of many deaths from typhoid fever made it possible to locate accurately the cause, to inspire confidence and allay undue fear by suggesting means of prevention. The inspection gives the opportunity to study the home and habits of the poor, what they do for amusement, what they read, what they depend upon to brighten their lives; gives the opportunity to advise exercise for body and mind, to say a word of cheer to the unfortunate, and to listen to the pathetic stories of misfortune and poverty. These inspections are not experiments, they are procedures that pay a heavy dividend in saving life and health. They stimulate a desire for cleanliness that is contagious. They are practical, because they reach the people and bring results.

Dr. Senn on the General Hospital at Samara.—Dr. Nicholas Senn, in an article published in the Chicago *Tribune*, under date of September 1st, writes of this hospital, as follows: "The General Hospital at Samara is located in a handsome park near the western limits of the city, and consists of a number of wooden buildings, in barrack style. Each building does service for seventeen years, when it is removed and replaced by a new one. At present the hospital contains 400 patients. These patients are admitted from all parts of the Samara province and pay 20 kopeks a day. If the applicant is destitute, as is often the case, the district from which he comes pays this small charge for him. We spent half a day in the surgical section, in charge of Dr. Johannes Dsirne, a surgeon of more than a local reputation. We had the pleasure of witnessing two operations for stone in the bladder. Stone in the bladder is quite common in this section of the country, as this surgeon performs annually on an average 100 operations.

"Although the operating-room lacks many of the modern conveniences, the results obtained would compare well with those in our best equipped institutions, something we must attribute to the pedantic cleanliness of the operator and his assistants. The anesthetic, chloroform, was administered by a female feld scheer or barber surgeon, and two other women of the same grade of medical education rendered assistance. The chief assistant was a recent graduate in medicine. These barber surgeons, male and female, are expected to assist licensed physicians, but are not permitted to operate or prescribe except in cases in which the services of a regular graduate in medicine cannot be secured. These barber surgeons must study their profession for four years, and the women are required to take an additional course in gynecology and obstetrics.

"Both patients were puny boys from the steppes of western Russia. In one case the high operation was performed; in the other the stone was removed by median perineal section after crushing.

"It is a fact worthy of note that according to the experience of Dr. Dsirne the peasants are almost immune against shock, he in his large experience having observed only one case. Dr. Dsirne invariably sutures the vesical wound in performing the high operation, using two rows of fine silk sutures, excluding carefully the mucous membrane. In most cases uncomplicated by cystitis he has seen the wound heal by primary intention. If cystitis is present he drains. Dr. Dsirne is a careful, conscientious, and dexterous operator. I am glad to know that he will visit the medical institutions of Chicago some time next summer."

GENERAL.

New Hospital for Newark.—Newark is to have a new Isolation Hospital, to cost $20,000. This was decided upon by the Finance Committee of the Common Council Wednesday night, and the Board of Health was yesterday notified that it might go ahead and build the hospital as rapidly as it saw fit. The city now has only one small frame structure, wretchedly equipped, where over thirty patients have been kept at one time, with but one nurse to care for them. As fast as patients become convalescent they are set to work caring for the others. It will take several months to complete the new hospital.

American Pharmaceutical Association.—The forty-ninth annual meeting of this Association will be held at St. Louis, September 16-21 inclusive. A special rate of a fare and a third has been made by the various railroads for delegates attending the Association meeting in St. Louis. Parties going by way of Buffalo can secure a ten days' stop-over privilege on their return by depositing their tickets with the lo-

cal ticket agent and paying a fee of $1.00. A special party will leave by the Barclay Street ferry, New York City, on Sunday morning at 9 o'clock, September 15th, taking the Lackawanna and Wabash Railroads, and arriving in St. Louis at 2 o'clock on Monday afternoon, one hour before the opening of the first general session of the meeting. The fare from New York to St. Louis is $21.25. In purchasing tickets ask for an Association certificate. On arriving in St. Louis turn this certificate over to Dr. H. M. Whelpley, the local Secretary, who will visé and return it, when a return ticket can be purchased for one-third the outgoing fare. The sleeper fare is $6.00 per berth each way. Parties desiring sleeper reservations should address the undersigned promptly so as to make sure of securing proper accommodations. This route has been selected on account of the beauty of the scenery and the fact that close connection is made and no time need be wasted by men who desire to leave their business for as short a time as possible. All who contemplate going will kindly communicate at once with CASWELL A. MAYO, *Member of Committee on Transport.*

The Contract Doctor in Michigan.—Swedish residents of Ludington, Mich., have introduced there a custom of their country, in the employment of a community doctor. The local physicians, it is said, were banded together for the maintenance of uniform and high charges. This suggested the idea of a health association, which was organized by the heads of 300 families, each of whom pays 50 cents a month towards the salary of a physician whose services are at their command in cases of illness. Many doctors earn no more than the $1,800 a year paid to the Ludington contract physician, but for that sum the organization had to be satisfied with a recent graduate from a medical school, and the probability is that it will always have to be content with a comparatively inexperienced man. The doctor now engaged is satisfied, and he should be. He is gaining experience and has a comfortable salary in addition.

Medical Staff Georgia State Sanitarium.—At a recent meeting of the Board of Trustees of the State Sanitarium (for the insane) in Milledgeville, Ga., July 19, 1901, a commission of physicians, consisting of Dr. W. S. Elkin, Dr. James B. Baird and Dr. J. B. S. Holmes, was appointed to conduct a competitive examination, in Atlanta, Ga., Monday, October 7, 1901, of applicants for appointment on the medical staff of the Sanitarium. This examination, required by the laws of the State, is necessary to render applicants eligible for election to any vacancy that may occur on the medical staff, but does not apply to persons now holding office in the Sanitarium. All applications must be filed with the chairman of the commission, Dr. W. S. Elkin, Atlanta, Ga., at least one day before the time set for the examination. Any member of the commission will cheerfully furnish, upon request, all information relating to the examination that may be desired by any applicant.

New Life Iusurance Tables.—The British actuaries have been preparing a new life table based on their experiences from 1863. Some of their figures are now available. The tables which have been provisionally prepared show conclusively that modern conditions have lengthened the time a man may be expected to live, and they show that fewer people per thousand die annually now than was formerly the case. The data on which this is based have been collected from the records of forty-four English and sixteen Scotch companies. The contributing offices each collected their own data and in addition to the cost of preparing this information they contributed $50,000 toward the expenses of the Joint Committee to which the investigation was intrusted.

The most interesting of the new tables shows how many males healthy at the age of ten years may be expected to live to a green old age. The old table comprised results up to 1863, the new one gives the results between 1863 and 1893, for it has taken eight years to complete these tables. This is the table:

Age.	Old.	New.	Difference in favor of the New Table.
10	100,000	100,000	....
15	98,224	98,284	60
20	96,223	96,453	230
25	93.061	94,387	1,326
30	89,865	91,942	2,077
35	86.281	88,995	2,714
40	82,284	85,467	3,183
45	77,919	81,262	3,343
50	72,726	76,185	3,459
55	66,513	69,919	3,406
60	58,866	62,073	3,207
65	49,297	52,307	3,010
70	38,124	40,615	2,491
75	25,691	27,752	2,061
80	13,930	15,530	1,600
85	5,422	6,350	937

It will be noticed that the new life table shows throughout a lighter mortality than the old one. Another table of importance shows "expectations after the first five years of insurance."

Age.	Old.	New.	Difference in favor of the New Table.
10	100.000	100,000	....
15	98,370	96,943	....
20	96,070	93,893	....
25	91,380	90,810	....
30	86,930	87,632	702
35	81,980	84,258	1,288
40	78,650	80,591	1,941
45	74,170	76,413	2,243
50	68,940	71,482	2,542
55	62,650	65,472	2,822
60	55.160	58,016	2,856
65	45,950	48,811	2,861
70	35,330	37,863	2,533
75	23,720	25,861	2,241
80	12,760	14,471	1,711

Actuaries in this city, commenting upon

these tables have expressed the opinion that their direct effect will not be so much upon the premiums charged as upon the valuations of life offices.

"The new table," one of the actuaries said, "will undoubtedly require smaller reserves at a given rate of interest than the old table did, and the offices will be able to lower the rate of interest assumed at their periodical valuations without actually increasing their reserves to the same extent, as would have been necessary had the old basis been maintained. Those offices, moreover, which keep the rate of interest unchanged will have under the new table a larger surplus to divide among their participating policy holders than would have been brought out under the old table."

Obituary.—Dr. Louis Warfield Ritchie, a physician and life-long resident of Georgetown, D. C., died Tuesday afternoon, at the age of fifty-eight years, from Bright's disease. He was the son of Dr. Joshua Ritchie, a life-long practitioner of Georgetown, and an instructor in Georgetown College. Dr. L. W. Ritchie was in the medical department of the army during the Civil War, and performed notable service at Antietam and other fields.

CORRESPONDENCE.

PARIS LETTER.

(From Our Special Correspondent.)

PARIS, September 1, 1901.

INTRARACHIDIAN INJECTIONS OF COCAINE—LETTER FROM BIER TO RECLUS—ANSWER BY TUFFIER—HEAVY TAXES ON PHYSICIANS IN FRANCE.

THE discussion on intrarachidian injections still goes on. The most recent occurrences are the speech by Laborde, the physiologist, at the Academy of Medicine and the one made by Professor Reclus. The latter caused some comment as Dr. Reclus is the great defender of the use of cocaine in minor surgery and even in such operations as laparotomy and kelotomy, and it seemed surprising that he should have proven an adversary of this new method. In a letter he wrote recently to the *Presse Médicale* he stated that he would gladly adopt it when the mortality consequent on its use was proven to be less than that brought about by the use of chloroform, ether, or the local use of cocaine. Dr. Reclus gave also in full a letter he had received from Bier and from which I shall extract the following statements: "I am glad to find that I hold the same opinions as you, the master in the use of cocaine. As applied in France, the new method can only be denounced as one that should not be tried. It was hardly necessary to perform 1,200 operations to come to this conclusion. I formed my opinion after the first six; I cannot understand the enthusiasm which is not dampened by the accidents that have taken place. I should advise the operators to use the injection on themselves, as I have done, and they might then change their minds. After having tried the method on myself, I abandoned it, but pursued by researches on the subject, and I believe I can now recommend a technic without danger."

Dr. Tuffier, who has been the most determined advocate of intrarachidian cocaine injections in France, considered his method as being attacked and he wrote the following letter to the *Presse Médicale* a few days after the publication of Professor Reclus' letter. He expressed himself in the following manner: "Cocainization, as it has been carried out by Corning and Bier, is a method that is uncertain, blind and dangerous. I should never have dared use it on a human being. I did not find it necessary to gather together 1,300 observations; the first six sufficed, the technic followed out, and the misadventure which happened to one of the authors, whom it was impossible to inject, would have sufficed to calm my enthusiasm and to make me refuse to try it on myself." Dr. Tuffier goes on to say that the same cannot be said of his own technic, which has proved to be sufficiently simple to obtain the favor of his colleagues in all lands, and he has seen both physicians and accoucheurs adopt it. At least a hundred of these injections are made daily, and Dr. Tuffier, taking up Dr. Reclus' words, says that it is this process that he applies with the greatest prudence. If certain surgeons have made rash trials, Dr. Tuffier does not wish to be responsible for their errors or failures, but as for those who have followed out his instructions, he earnestly requests them to publish full statistics for which he declares himself responsible.

Physicians in America are apt to complain of the difficulty of making a living on account of the expenses required by a physician's standing in a community. It may well be asked what most American doctors would think of the heavy taxes which the French medical man is obliged to pay. Every householder in France is obliged to pay a certain tax, but when one has an apartment, one is also obliged to pay a certain percentage of the rent charged. This is the case with most physicians; to cite an example, for a rental of five thousand francs a year or $1,000, one is obliged to pay about 250 to 270 francs ordinary tax. Besides this there is what is called the *patente*, which medical men are obliged to pay like merchants, and this amounts to a matter of 700 to 800 francs, so that a physician is obliged to pay in taxes about one-fifth of this rent. A good deal of complaint has been made about this, and in a recent article published in the *Presse Médicale* the author said that it seemed unjust to impose such heavy taxes on citizens who often enough gave their services for nothing. But amongst doctors there are a certain number who have to pay very heavy taxes. They are the physicians who practise in watering-places. They are requested to pay not only where they have their office, but also where they live the rest of the year. Professor Pozzi and Dr. Pedebidon, who are senators, have been advocating a new regulation, whereby this

category of physicians would be only charged for their office. Another senator, Dr. Labbé, who is well known on account of the gastrotomy he performed some twenty years ago on a man who had swallowed a fork, goes even further and would have physicians taxed only on the rent they pay for their office. It should be remembered that most physicians in France practise where they live, there being very few who have two separate apartments.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

CANCER OF THE THYROID GLAND—RUPTURE OF THE BLADDER—VESICOVAGINAL FISTULA—CONGENITAL FACIAL PARALYSIS—ANURIA IN PNEUMONIA—HUMAN ACTINOMYCOSIS—ELEPHANTIASIS AND THE EPITROCHLEAR GANGLION—THE RETINA IN ABSENCE OF THE CEREBRUM—STRICTURE OF THE RECTUM—PERSISTENCE OF MECKEL'S DIVERTICULUM WITH FISTULA—LECITHIN AND NUTRITION.

M. Poncet (Lyons), at the Société de Chirurgie, July 24, 1901, read a paper on the subject of cancer of the thyroid gland in which he called attention to the following points. Cancerous degeneration of the thyroid gland is really not a rare affection. True sarcoma of this body is rather uncommon. The forms of cancer usually encountered are of the epithelial type, although the scirrhus has been encountered. Ricard has reported several cases of this which he termed fibrous degeneration after a histological examination. The speaker stated that too much importance must not be attached to purely histological considerations. He felt that in the case of the thyroid gland whenever a hard tumor is encountered, invading the surrounding tissues, vessels, nerves, etc., its malignity should be clinically assumed.

M. Chauvel, in behalf of M. Dubujadoux, narrated the history of a case of rupture of the bladder treated successfully with a retention catheter. The soldier had been subjected to violent abdominal traumatism, which was followed by symptoms of rupture of the bladder. All operative interference was declined. Hence the surgeon contented himself with drainage by means of a retention catheter. The symptoms gradually subsided until finally cure resulted. His suggestion that the rupture was intraperitoneal is undoubtedly erroneous in view of the subsequent course of the case. It must have been purely extraperitoneal.

M. Bazy, in behalf of M. de Spartali (Smyrna) detailed the treatment of a vesicovaginal fistula by the process of infolding. A primary attempt at cure was made after the manner of Doyen. On the fourth day an unaccountable hemorrhage required a removal of the sutures before it could be stopped. Six weeks later he extended a transverse incision through the fistula so as to make two lips which were brought together and folded in upon their deep surfaces. A retention catheter and lateral decubitus for twelve days effected a cure.

M. Marfau, at the Société Médicale des Hôpitaux, July 26, 1901, contributed a few notes on facial paralysis in the newly-born. He stated that this condition has for its usual cause either instrumental traumatism or pressure on the nerves by the bony maternal canal. There are, however, a certain number of cases which depend upon an arrest of nervous development either in the central or in the peripheral portions of the nerve. Such a case he recently had occasion to observe. The child was born with complete right-sided facial paralysis, accompanied by an anatomical malformation of the cavity of the ear. In a few days the child died and the following findings were made at the autopsy. Peripheral degeneration of the nerve trunks, the petrosal bone malformed and consisting of a mere mass without any attempt at the cavities of the middle and internal ear; absence of the intracranial trunk of the nerve and marked atrophy of the nerve centers at the base of the brain. In this case it may be hypothecated that the first thing to be arrested was the petrous bone which was followed by degeneration of the peripheral nerves, then of its centers in the brain.

M. Caussade communicated in the name of M. Gilbert and himself the history of a case of anuria occurring during a pneumonia. The patient, a man twenty-five years of age, developed an almost absolute degree of anuria on the third day of the disease. The amount of urine passed during the next seven days was not over 350 grams. On the eleventh day death supervened. The autopsy showed a marked nephritis. The sections of the kidneys revealed a plugging of all the tubules with casts and red blood-cells. The renal lesion did not seem to have any effect whatever upon the course of the pulmonary. Death occurred with symptoms of uremia.

M. Poncet, at the Société de Biologie, July 27, 1901, discussed actinomycosis as it occurs in the human species. He stated that so far as France is concerned it appears with almost equal frequency in the cities and the country and usually in one of the following locations, the cervicofacial region, the ileo-cecal region and the rectoanal region. Every phlegmon in the neighborhood of the teeth, if very hard and especially if it be somewhat old, should be looked upon as probably actinomycosis, particularly if it is near one of the wisdom teeth and is accompanied by a precocious and persistant trismus. A paraabdominal fistulous tract with neighboring indurations, extensive and simulating cancer, especially in the appendiculo-cecal region and manifestly of intestinal origin, also strongly suggests actinomycosis. Similarly indurated phlegmons about the perineum, without much damage to the urinary functions and evidently originating from the bowel are also likely to be due to the fungus.

M. Tribondeau stated that he had recently had

opportunity among the Pacific Indians of seeing fourteen cases of elephantiasis of the hands and forearms alone and had noticed one singular feature with relation to the epitrochlear glands The process began as a reticulated lymphangitis of the lymph-trunks, usually confined to the ulnar border of the arm and extending upward and suddenly ending at the epitrochlear gland which was usually much engorged, often staphylococci could be obtained from the tissues. The engorged ganglion was at first appreciable only to the touch as a distinct nodule, but soon progressed in size enough to be plainly visible. It then usually continued to grow and finally reached a condition suggesting several superimposed ganglia.

N. VASCHIDE and G. VURPAS, at the Académie des Sciences, July 29, 1901, read a paper on the histological characteristics of the retina in the anencephalous monster recently reported by them. The retina of each side was of normal microscopical arrangement, although the cerebrum was almost totally lacking. The explanation which appears to be the most likely to be true is that the brain developed sufficiently to originate the buds which continue to form the eyes. At this stage the cerebrum ceased to progress and was destoyed by some process similar to inflammation, while the young optic offsets were unfolded to perfection.

M. CHAPUT, at the Société de Chirurgie, July 31, 1901, reported for Souligoux and Lapointe a case of congenital stricture of the rectum which had been complicated with a proliferating and stenosing proctitis. All attempts to dilate from below through the anus had failed. Finally, the stenosis went on to absolute obstruction for the relief of which an artificial anus was made in the left inguinal region. After a while sounds were successfully passed from above downward and a gradual dilation was in this manner carried out until from below it could be maintained. At this time the artificial anus was closed.

M. POTHERAT in the discussion said that the benefit of the artificial anus in itself in these cases was very great, simply by providing a new outlet for the fecal matter. In one of his cases of obstruction due to productive inflammation he found that this forced rest of the bowel brought about a cure without any other therapeutic measures.

M. KIRMISSON reported a rather rare condition in a child. A small congenital tumor had appeared at the umbilicus, rose-colored, about the size of a nut, soft, discharging abundant mucus, and through a sinus in its center admitting a probe for four centimeters. A laparotomy was done and revealed a Meckel's diverticulum. Resection resulted in cure.

M. G. GARRIÈRE, at the Académie des Sciences, July 29, 1901, called attention to the marked effect on growth and development of children incident upon the administration of lecithin. Weight, stature, strength, excretion of urea and carbonic acid gas, formation of red blood-cells and hematoblasts are all increased. These modifications are all apparent from the beginning of the treatment, gradually become less, indicating that the organism has grown accustomed to this substance.

SOCIETY PROCEEDINGS.

AMERICAN NEUROLOGICAL ASSOCIATION.

Twenty-seventh Annual Meeting, Held in Boston, June 19, 20 and 21, 1901.

THE Association was called to order by the President, George L. Walton, M.D., of Boston, in the new building of the Boston Medical Library on The Fenway. In his opening address the President announced the deaths of two members, Dr. Irving D. Rosse of Washington, D.C., and Dr. W. L. Worcester of Hawthorne, Massachusetts. Dr. Worcester's death occurred as the result of a septic wound a few days before the session, and a paper which he had intended to read, entitled "A Case of Cerebral Hemiatrophy with Hemiplegia and Aphasia," appeared in the program for this meeting.

Case of Myeloma of the Spine with Compression of the Cord.—Dr. John Jenks Thomas of Boston read this paper. The following history was given. A man, thirty-nine years of age, was attacked by severe pain between the shoulders which lasted four or five days. After that he improved, but there was more or less pain on movement. Six weeks later it was noticed that there was a slight uncertainty in the use of the legs, some numbness of the legs, and a sensation of constriction about the abdomen. Eight weeks after the onset there was slight diminution of sensation of touch and pain below the eighth rib, and a very slight paresis of the legs without any increase of the reflexes. The spine was freely movable and it was not tender, but there was a slight kyphosis in the upper dorsal region. The symptoms increased and four months after the onset and two months after he was first seen he was confined to the bed with a paraplegia with increased reflexes, loss of the sense of pain and temperature and diminution of the sense of touch to the fourth rib, and paralysis of the sphincters. The spine was not tender and motion was fair. There was a slight swelling on the left fifth rib. The patient was operated on by Dr. Munro and a soft reddish tumor mass was found affecting the lamina and body of the fourth dorsal vertebra and destroying the bone. This was removed as far as possible. The wound healed well and the patient regained completely the strength and sensation of the legs and the control of the bladder. The tumor mass was found to be composed of small round cells with large nuclei, very similar to plasma cells, except for the presence of a nucleolus. There was a very fine reticulum. There was about a quarter of one per cent. of albumose and three-quarters of one per cent. of albumin in the urine, with tube casts. The examination of the blood was negative, except for a leucocy-

tosis of 20,000 without relative change of the varieties of white corpuscles and the normal number of red corpuscles and hemoglobin of 70 per cent. The patient was given bone marrow and Coley's toxins. The operation was done six months ago and there has been no return of the cord symptoms. Tender swellings on other ribs have appeared and quieted down, and about six weeks ago there was a return of pain and tenderness in the back of the tenth dorsal spine, with pain passing about the trunk on pressing on the head.

Myelomata are multiple tumors affecting chiefly the spine, ribs, skull and pelvis, developing from the cells of the marrow, composed of cells resembling plasma cells. They usually produce albumosuria, though this is found in other lymphoid affections of the bones as in pseudoleucemia and leucemia. The most constant symptoms are pains in the back and chest, swellings on the ribs, and deformities of the spine and thorax, sometimes accompanied by compression of the cord. There is no tendency to form matastases, but the disease frequently produces a severe anemia of the secondary type, without megaloblasts in the blood or any marked changes in the number or proportions of the white corpuscles. The interesting features of the case, aside from the rarity of the tumor, are the relief of pressure on the cord by laminectomy, the presence of dissociation of disturbances of sensations, of temperature, pain and touch from pressure upon the cord from without, and the apparent improvement of the condition of the bones from the use of bone marrow and Coley's toxin treatment.

Case of Cervical and Bulbar Tabes with Necropsy.—Dr. William G. Spiller of Philadelphia, with the collaboration of Dr. S. Solis-Cohen, was the author of this paper. In this case syphilis occurred before the onset of the nervous symptoms. There was nocturnal incontinence of urine beginning in 1872 with ptosis of the right upper eyelid in 1879. This could be overcome voluntarily. There was variation in the size of the pupils from time to time; paresis of the facial muscles; difficulty of mastication and deglutition; atrophy of the tongue; disturbance of sensation, especially for temperature and pain; sharp pains in the abdominal region and lower limbs; grayness of the optic nerves and loss of reaction of the irides to light and in accommodation (Edward Jackson, 1888). There was loss of sexual power. The knee-jerks were well preserved. A clinical history of this case was published by Dr. Solis-Cohen in 1889. The symptoms were those of bulbar paralysis; there was general wasting and dissociation of sensation was present. The man worked as a carpenter until within a few weeks of his death. There was no distinct incoordination; station was good. The diagnosis of atypical tabes, made in 1889, was corroborated by the autopsy in 1900 . Degeneration of the posterior roots was distinct in the upper and middle thoracic region and in the spinal root of each fifth nerve. There was integrity of the posterior roots of the lumbar region. Dr. Spiller was of the opinion that the spinal root of the trigeminal nerve would be found degenerated in cervical tabes if it were oftener looked for.

Dr. Joseph Collins and Dr. George W. Jacoby of New York said that they do not find high tabes so very rare. In records of 100 cases of Dr. Collins found five cases of cervical tabes and there was no question of the diagnosis. The poison or toxin of syphilis makes a strong impression on both motor and sensory neurons.

Gunshot Wound of the Spine; Operation; Recovery.—Dr. F. W. Langdon of Cincinnati read this paper. In this case the fifth thoracic vertebra was fractured with penetration of the canal and laceration of the dura. The cord was apparently intact at the operation. Immediately after the accident there was motor and sensory paraplegia with the involvement of the sphincters. The reflexes were abolished, except the plantar which was flexor in direction and sluggish in quality. At the autopsy on the fifth day a central clot in the gray matter was found at the fifth dorsal level; the white matter was fairly preserved in continuity.

Clinical and Pathological Report of a Case of Tabes and Progressive Muscular Atrophy.—Dr. Joseph Collins of New York reported the case of a man with a good early history; gonorrhea but no syphilis; married; one stillborn child. In 1892 he was thrown from a horse, but was not much hurt. He had pneumonia and pleurisy afterward and lost his health. The initial symptom was weakness and numbness of the left hand; atrophy set in; the right hand was also affected. There was no pain. He would drop a pen while at work and was treated for writer's cramp. His bladder was emptied slowly twice daily. Sexual power was weakened. There was numbness in the legs and feet and he could not cross his right knee without assistance. There was wasting below the knee. Pain occurred in the small of the back and was due to weakness of the muscles. There was formication. He was harassed by sudden drawing up of the muscles of the thigh at intervals of about fifteen minutes from 2 a. m. until daylight. There was gluteal atrophy. The treatment consisted of electric baths and strychnine injections. Dr. Collins believes that the type is not unusual; that its primary seat is in the spinal cord and classes the case as one of true progressive muscular atrophy associated with tabes.

Report of a Case of Chronic Hemianesthesia of Over Seven years' Duration from the Destruction of the Carrefour Sensitif.—Dr. Wm. G. Spiller of Philadelphia read this paper prepared by himself and Dr. F. X. Dercum. The patient was a mulatto, who had been under observation for seven years, having right hemiplegia and right homonymous hemianopsia. The symptoms had followed apoplexy, the resulting hemiplegia being slight. There was no impairment of hearing, taste or smell. There was vari-

ation at different times in the extent of the hemianesthesia in the proximal portions of the limbs, but not in the distal portions. There was some spastic rigidity. Dr. Dercum had diagnosticated a lesion of the posterior limb of the internal capsule. Drs. C. K. Mills and G. E. de Schweinitz reported the case in 1869. At that time the patient showed paresis of the right forearm and the fields showed a quadrant hemianopsia. At the autopsy an old cyst was found in the *carrefour sensitif* in the left hemisphere. The thalamus was apparently intact except in so far as it was implicated by secondary degeneration. The motor fibers of the internal capsule were merely slightly implicated. The area affected was studied by several microscopical sections.

Dr. Charles K. Mills gave his opinion regarding the motor and sensory areas of the brain and their boundaries and referred to Schäfer's "Physiology" as presenting these views compactly and thoroughly. He gave credit to the members of the Association for adding to our knowledge of these areas and summoned up the present state of our knowledge under five heads. He instanced the newer observations on the subject of astereognosis and similar phenomena; the studies of the lesions of the superior parietal lobule; facts regarding the *carrefour sensitif* and facts on amyotrophic sclerosis. Mills emphasized the fact that in some of these cases, as in Walton's astereognosis was present without any motor phenomena.

Dr. G. L. Walton believes that we have three sets of sensory areas and that the Rolandic region is not concerned with this. Broca's center is not to be considered in the motor region. The true executive center for speech is at the foot of the Rolandic fissure.

Dr. Mills cited a case of astereognosis without motor paralysis. The autopsy showed in the superior part of the posterior parietal region a large area of disease, not invading the motor zone. He also cited a case of amyotrophic sclerosis. The patient's symptoms were all motor and atrophic. The lesion was pre-central, post-central and in the anterior fourth of the superior parietal convolution.

Dr. F. X. Dercum stated his ground that the sensory fibers occupy a certain position in the internal capsule and are not commingled with any motor fibers, as held by Dejérine. There is no proof that the motor area is in any way an astereognostic center.

Brain Tumor with Unusual Symptoms.—Dr. Wharton Sinkler of Philadelphia reported this case. The tumor was as large as a hen's egg and was attached to the dura over the anterior and posterior Rolandic convolutions. There were no disturbances of pain and temperature sense and only mild motor phenomena. In his case astereognosis was associated with disease of the thalamus.

Dr. C. W. Burr of Philadelphia said that these questions of sensation are the most obscure, judging from the persistent philosophic quarrel on the subject of sensation among men equally well trained. Men, however, are mostly agreed on the function of the cortex. His own opinion is that the motor cortex of the brain is not also a sensory cortex. Along the fissure of Rolando destruction may occur and only motor symptoms appear; back of this is an area which will give only sensory symptoms if destroyed. By our senses we recognize the qualities of an object; intellectual perceptions are in primary centers; these are situated behind the motor area in the Rolandic region.

Dr. H. T. Patrick of Chicago called for more facts clinically and *postmortem*. The only studies of the stereognostic sense are of recent date. He related a case of astereognosis of one hand, without paralysis and with a minimum of sensory disturbance. Hysteria had been diagnosticated in this case. Wherever the lesion is, it does not interfere with motion and very little with common sensation.

Dr. C. L. Dana of New York believes the sensory zone overlaps the motor zone and that the lines have not been sharply drawn. The only question is whether there is an essential identity between motor and sensory centers; or whether the sensory centers are not at all identical with the motor, but posterior to it. He recently had a case in which there was a sarcoma of the left inferior parietal lobe. After removal there was right hemiplegia and very slight paresthesia, but no astereognosis. There was no distinct anesthesia, but a consciousness of disturbance. Loss of muscular sense is due to a lesion of the inferior parietal lobe.

Dr. Mills believes in a strictly limited stereognostic center. He lays great stress on the case of Spiller and Dercum (destruction of the *carrefour sensitif*), a single case studied with the greatest care. He reviewed the older facts supporting separate sensory localization and discussed the bearings on this subject of more recent clinicopathological observations on muscular and cutaneous sensibility and especially on the stereognostic sense, giving his views on the cerebral sensori-motor mechanism.

Acute Multiple Neuritis.—Dr. Charles W. Burr and Dr. D. J. McCarthy of Philadelphia reported the study of a case of multiple neuritis (alcoholic), with incontinence of urine and feces, and death by cardiac failure. The examination of the central and peripheral nervous system revealed besides a parenchymatous degeneration of the vesical nerves, degeneration of the vesical and pelvic plexuses of nerves, of the pneumogastric and phrenic, degeneration of the muscles, selective in character, and perivascular sclerosis in the spinal cord, degeneration extra- and intramedullary of the anterior and posterior roots, widespread chromatolysis of the ganglion cells of the central nervous system and the intervertebral sensory ganglia.

Symmetrical Gangrene.—Dr. C. L. Dana re-

ported the case of a man who had rheumatism in which symmetrical gangrene occurred, affecting his thumbs, hips, toes and shoulder. The gangrenous areas were superficial and painful. The toes broke down, but recovery took place after the use of antirheumatic remedies. Gangrene occurs as a manifestation of many toxic agents.

Dr. Henry J. Stedman of Boston reported a case of symmetrical gangrene of both extremities occurring ten years after syphilis. The endarteritis produced small defects of the skin.

Raynaud's Disease.—Dr. B. Sachs of New York denied that Raynaud's disease is a distinct morbid entity, but is rather a symptom-group. The arterial and venous changes are of prime importance, the nerve changes being secondary. He thought it remarkable that the association of gangrene with general paralysis, as detailed by Stedman, should not be met with oftener.

Dystrophy of the Lower Arm and Hand.—Dr. James J. Putnam of Boston exhibited a remarkable case occurring in a peddler and of five years' duration. He had large shoulder girdle and deltoids and an extraordinary chest with thin muscles. The facial muscles were thin. There was no pain and no assignable cause.

Tumors of the Corpus Callosum.—Dr. Putnam and Dr. E. R. Williams presented a paper on this subject. The first case was that of a woman who had had double optic neuritis; then atrophy of the optic nerve. This was *followed by a second attack of neuritis supervening on the atrophy.* There was great loss of vision with loss of power in the arms and legs with weakness. There were no localizing signs. She died in coma. The second case was that of a man, aged fifty years, who died six months after the first symptoms in January, 1901. In the previous October there was optic neuritis and in November he was operated on by Dr. J. Collins Warren to relieve isolated epileptic attacks. The paralysis in this case was due to pressure. The third case was a male, aged fifty-six years. He was intemperate and died soon after the symptoms began. He had weakness of the left leg and right leg, but not of the right arm. He had delirium and for ten days could not feed himself. The knee-jerk was diminished at first and early disappeared. There was disturbed mental action. Dr. E. Wyllys Taylor reported on the brains. There were no gross signs of degeneration of the cortex or any changes outside of the tumor itself. The term callosal-ataxia fairly described the case.

Four Cases of Brain Tumor with Unusual Symptoms.—Dr. Wharton Sinkler of Philadelphia reported these. The first case was that of a woman, aged thirty years. At thirteen or fourteen she had something like chorea and was decidedly neurotic. She had been married ten years and had two children. For eight or nine years she had trouble with her left arm which gave out after use. Three or four years previously she hit her head on the vertex against a door. In 1899 she had religious melancholia. In June, 1899, she had violent convulsions at night. The condition was considered by her physician to be hysterical. She had a second attack two weeks later. Dr. Sinkler saw her in October, 1900, when she had depressed, psychic symptoms and was hysterical. Her gait was spastic; there was no thermal or tactile anesthesia. The knee-jerk was excessive on the left side. There was no diplopia or hemianopsia. In January, 1901, all the symptoms were exaggerated. There was violent ankle-clonus on the left side, but no facial paralysis and no astereognosis. February 4, 1901, optic neuritis was noted by Dr. A. G. Thomson. Dr. W. G. Taylor operated and found an extremely thick skull and profuse bleeding. A tumor was seen springing from the dura. It was removed and the cavity packed and the bone flap replaced. Saline injections and hypodermics of strychnine were used. The patient recovered sufficiently to answer questions and moved the arm and leg, but died six hours later. The tumor occupied the ascending frontal convolution and was a spindle-cell sarcoma of the size of a hen's egg. The case is remarkable for the latency of the symptoms. Dr. Taylor believes it would be better in a case of this kind to open the skull, pack the wound and remove the growth at a later operation.

The second case was a sarcoma of the occipital lobe. The third case was that of a white man, aged thirty-seven years. The trouble began one year ago with dizziness and pain in the left arm and leg. In March, 1901, there was weakness with incoördination of the left arm and leg, paresis of the left face, violent headaches, dizziness, vomiting, numbness of the hand and twitching of the arms. Station was good. There was no astereognosis. The knee-jerk was exaggerated. Ankle-clonus present. The Babinski reflex was present on both sides. There was choked-disk with diplopia, but no hemianopsia. He died of failure of respiration. At the autopsy a tumor was found at the upper part of the temporal and sphenoidal lobe. There were two growths also at the base. The patient was tuberculous but there was no connection between that disease and the growths in the brain. The one at the base was round and hard as a marble and was the cause of the facial symptoms.

The fourth case was in a man, aged fifty years, who had been in good health and worked as an agent for a drug-house. He was an intelligent, well-educated man. In February, 1901, he was in good health, but his sexual desire had been lost for three years. In April he became indifferent, silent and morose. His physician, Dr. W. D. Robinson, was consulted April 15th and found the man extremely

neurasthenic with symptoms of dementia. He began to practise masturbation and was with difficulty controlled. May 20th he became passive and apathetic. The reflexes were exaggerated. There was slow response to light reflex. He developed bed-sores on the sacrum and died June 2, 1901. There was a growth in the right frontal lobe, involving the corpus callosum and extending over into the left side.

Brain Tumor.—Dr. William M. Leszynsky of New York, and Dr. James H. Glass of Utica reported this case. There had been progressive loss of power in the left arm and hand. There was no headache nor vomiting nor diplopia; no injury and no syphilis. The subject was a man of medium height. His pupils were equal and their reactions were normal. There was slight narrowing of the fields with receding papillitis. There was no aphasia. The dyamometer showed 112 in the right hand and 65 in the left. There was no astereognosis. The patient could not stand. He had talipes equinus. The left knee-jerk was exaggerated. There was no atrophy. A slow-growing cerebral tumor was diagnosticated and an operation was performed in the right Rolandic area. An endothelioma was removed. There was subsequent complete paralysis of the upper left extremity—with muscular rigidity—in the left side. The response to motor impulses was delayed. There were muscular twitchings of the hand and arm with consequent fatigue. He continued to earn his living as an accountant, though permanently hemiplegic.

Dr. Graeme M. Hammond exhibited a plaster cast of a cerebellar tumor.

Traumatic Convulsions. Cranial Operation. An Interesting Pathological Condition. Recovery.—Dr. Frank R. Fry of St. Louis presented the case of a young woman who had received a violent blow on the left forehead when sixteen years of age. Was seen by the writer four years afterward. During all the four years since the accident she had been having hysterical seizures of a typical kind; severe headache, focused at the point of trauma; an increasing mental and physical lassitude. There were no hysterical stigmata of any kind. She had always been perfectly healthy and strong before the accident. The family history was not especially neuropathic. An opening was made in the skull 2½ by 2½ inches. The exposed field of pia-arachnoid showed some slight exudation. When the finger was introduced under the edge of the opening adhesions were found between the dura and pia-arachnoid in every direction. These were broken up with considerable hemorrhage. The wound healed by first intention, the dressing not being disturbed for two weeks. The change after the operation was marked. The patient was *cured*. No headache whatever, no more convulsions. The operation was nearly two years ago and the patient is still perfectly well. The case was compared with a similar one reported by Dr. C. B. Burr, in the proceedings of the American Medico-Psychological Association, 1900. The question of operation in cases of this character was discussed. Useless in hysterical situation to try to formulate any rules for operation except two: (1) If in any case there is doubt about the traumatic origin of hysterical or other psychical symptoms, or of the possibility of surgical relief, the patient should have the benefit of the doubt by an operation. (2) To determine these matters the case should be thoroughly canvassed by a neurologist.

Intracerebral Osteoplaque, with Report of a Case and Exhibition of Specimen.—Dr. Samuel Ayres of Pittsburg exhibited a patient who was an active business man, fifty-four years of age, without specific or traumatic history; having used alcoholic stimulants quite regularly, but not to excess. He had been dyspeptic for many years but had not been troubled with headaches until a month or so previous to his death. His last illness was ushered in by a severe attack of vertigo; soon followed by intense headache in the occipital region. There were no paresthesias or other localizing symptoms whatever. He became delirious and died in coma. The autopsy revealed a large disc of bone adherent to the falx cerebri, from which it was easily separated, compressing the paracentral lobule. This disc, composed of dense bone, was nearly circular in outline, plano-convex, measuring about two and one-half centimeters in diameter, and nearly one centimeter in thickness near the center, from which it shaded off to a narrow edge. The bony plate might have been reached with great difficulty by an operation, but the absence of focal symptoms precluded the possibility of locating the foreign body.

Dr. Sachs remarked upon the surprising adaptability of the brain to pressure from tumors. He cited a case under observation for three and a half years with blindness and dementia for one and a half years. The patient was indifferent to her surroundings and her mental condition was nearly a blank. Now the patient is as bright as previously. There was central scotoma in one field and loss of half vision in the other. After six months there was optic neuritis and then atrophy which has caused permanent blindness. Dr. Sachs believed that operations for the relief of pressure should be encouraged. There was great pain in the branches of the trigeminus and for this a trephine opening was made in one side of the tumor as it presented in the parietal region. The pain was relieved and yet no further attempt could be made to remove the growth. The hemorrhage was great and so the operation was abandoned.

Dr. Mills spoke of tumors of the callosum giving rise to mental symptoms, mental ataxia, etc. He stated positively his opinion

that time was lost by surgeons in these operations. No lectures should be given at the time and no consultations should be held. Surgeons should be more expeditious. There should be no delay in the operation and this not simply to avoid hemorrhage.

Tumor of Cerebellum.—Dr. Joseph Sailer reported this case. The patient was twenty-one years old and had a dizzy headache of the right side. There was a tendency to fall to the left. There was no difficulty in swallowing and no difficulty with the bladder or rectum and no aphasia. The pupils were dilated, with slight lateral nystagmus and slight convergence. There was slight double ptosis; slight optic neuritis. There was double ophthalmoplegia interna. There was no astereognosis nor vomiting. There was gradual loss of memory. There were choriform movements. At the autopsy a tumor was found involving the worm of the cerebellum and measuring 4x3x2.5 cm. It was not very vascular and involved only the posterior portion of the corpora quadrigemina. The anterior portion was not involved.

The Prognosis of Traumatic Hysteria Based upon the After-Histories of a Number of Litigated Cases.—Dr. Pearce Bailey of New York read this paper. He classes hysteria among the delusional insanities. The first case he reported was in a farmer who met with a slight accident after which he became depressed, tearful, apathetic and had a tendency to stagger to the right. At the end of four and one-half years he still has an unsettled claim for damages. The second case was in an actress who had a railroad accident in which she suffered no cuts or bruises. Left hemiplegia and left hemianesthesia ensued. She eventually resumed her vocation. The next case was in a young girl subject to hysteria and chorea. She met with an elevator accident, falling thirty feet; she was not cut nor bruised. Right hemiplegia followed. She recovered $11,500 after which she was married, but walked with a cane. The next case was similar and recovered after receiving a verdict for $4,000. The fifth and sixth cases were accidents from electric shock. The seventh case had lip hemiplegia following hysterical convulsions caused by being thrown from a cart. The hemiplegia switched to the opposite side. He became deaf and dumb. His case was settled out of court, but he was still deaf and dumb one year afterward. The next case occurred March 20, 1900. The man was run into by a trolley car while in a cart. There was a slight injury to the head. He had traumatic hysteria and was seriously incapacitated. He received a verdict for $400 and four months later was at work. Dr. Bailey believes that it is impossible for most of these cases to get well so long as money is at stake, but that is a very different thing from holding that it is the whole cause. The symptoms may last for years and the patients are not always gallery players. Moving the patient from home for treatment is not necessary in all cases.

A Case of Hysterical Paralysis Associated with Black Chromidrosis.—Dr. J. W. Putnam of Buffalo read this paper. Patient, aged nineteen, in good health till eighteen years old, was affected with black chromidrosis for several months. Cheeks and eyelids affected. Later a hysterical paralysis of both legs occurred, which lasted one week. After several months of treatment patient recovered from chromidrosis.

Chorea with Embolism of the Central Artery of the Retina, with Short Review of the Embolic Theory of Chorea.—Dr. H. M. Thomas of Baltimore read this paper. Girl, age sixteen. Family and personal history unimportant. No rheumatism. Seven weeks before admission, right hemi-chorea developed. Sudden blindness in the left eye at about the same time. Ophthalmoscopic examination showed typical picture of embolism of the central retinal artery. Dilated heart with systolic murmur. The ocular complications of chorea. Embolism of the central artery, rare. Seven more or less accurately reported cases in literature. The embolic theory of chorea. Kirkes, Hughlings-Jackson, Broadbent, and others supported it. Dickson and many others opposed it. The seat of the lesion the corpus striatum? cortex? or some other part? No definite data to determine. Suggestions that it is to be looked for somewhere else than in the cortex. Possibly on the afferent side of the mechanism upon which coördination depends. Modern views as to the morbid agent.

Dispensary Treatment of Mental Diseases.—Dr. Walter Channing of Boston read this paper. Insanity requires social as well as medical treatment. For some years the writer has made an effort to help in the solution of the problem of why insanity is increasing and how it can best be treated. Several ways of accomplishing this object. (1) Through discussions in medical and lay societies. (2) Instruction by means of didactic and clinical lectures to students. (3) By the investigation and treatment of patients with more or less mental disturbance in the general community. To accomplish the third object a department of mental disease was established at the Boston Dispensary, December, 1897. Many cases of insanity, both incipient and developed, have been sent to it by the staff and physicians of all the public institutions in Boston. Also cases of neurasthesia, simple depression, alcoholism, defective children, etc. The study of defective children has gradually become an important branch of the work. At present no physicians make a speciality of examining such children. We have, therefore, no system by which a thorough examination can be made and serve as a basis of an expert opinion. The number of defective children in the city is considerable.

Many go unrecognized and later develop into imbeciles, tramps and criminals. The women often become the mothers of illegitimate children. Any means whereby a considerable number of these children can be culled out from the general population and properly treated would be of great public benefit. The work of the Mental Department at the Dispensary has shown the writer that there are more unsuspected cases of insanity of both an acute and chronic nature in the general community than he had supposed. Some incipient cases have been prevented by prompt treatment; others have been cured in a short time either at home or at the hospital. Dangerous cases have been committed. Consultations have been held with members of the staff and patients have been seen with the district physicians at their homes. The opportunity to give instruction to students of the early symptoms of insanity and of the relation of mental to other diseases has been a valuable one, and an important aid to the writer in his course of mental diseases, part of which has been given at the Boston Insane Hospital. Much time has been spent in the examination of each patient which in the crowded clinics of the other departments is less possible. Experience has proved that in the city of Boston there is plenty of material for a mental clinic, and it should be an advantage to the general work of a large dispensary to group cases together for purposes of study and investigation or record, as has been done at the Boston Dispensary.

Dr. Guy Hinsdale of Philadelphia spoke of the successful work of the mental clinic first established in this country at the Pennsylvania Hospital. Mental cases cannot be handled successfully in a general clinic and it is better for the patient to go to a special clinic where physicians can more readily elicit the facts pertaining to this peculiar class of cases. Neurologists can thereby command the advice of alienists in given cases and the admission of such patients to suitable institutions will be facilitated. The medico-legal side of the subject is one of the best reasons for the existence of a mental clinic.

A Case of Fear of Insomnia.—Dr. Edward Cowles of Waverley reported the case of "phobia" existing for years, with resort to devices for seclusion at night and for promoting sleep. Nature of obsessions explained, the imperative idea precisely pointed out, proper substitute suggested, immediate correction of disordered association-process, and recovery. Such primary disorders of physiological mental processes are very common in normal subjects; not necessarily manifestations of constitutional neuropathetic instability. Subjects of acquired or hereditary neurasthenia only more susceptible to influences causing such "dissociations"; insistent and imperative ideas, in various forms, more frequent and striking, but only further modifications or exaggerations in the workings of fundamental elements common to all minds. These affections should not be conceived and classified as essentially neuropathetic.

Two Cases Illustrating the Early Association of Mental Aberration with Syphilitic Infection.—Dr. H. A. Tomlinson of St. Paul recorded the clinical history and *postmortem* findings in two cases of insanity having a comparatively recent history of syphilitic infection, with no apparent involvement of the general nervous system in the one, and marked motor disturbance in the other. The *postmortem* examination in the case of the motor disturbance showed no evidence of gross lesion, while in the other cases without apparent somatic involvement there were a number of gross lesions. The association in these two cases of marked degenerative change in the vegetative organs and their influence on the mental manifestations. The absence or slight development of the ordinary manifestations of syphilis in cases of associated insanity is the experience of the writer.

A Case of Dislocation Forward of the Seventh Cervical Vertebra.—Dr. Frank R. Fry of St. Louis reported the case of a man, thirty-seven years old, who fell from a hammock. Was immediately paralyzed. Examination showed a total paralysis below the seventh cervical segment. The first consultation and serious consideration of the case was twenty hours after the accident. Then a systematic and careful manipulation failed to reveal any injury to the bones. A diagnosis of hematomylea seemed probable, and it was decided to attempt no further examination. One of the consultants took issue, however, insisting that an exploratory incision should be made, especially as an X-ray examination was not available. The patient lived one week. Suffered very little until the last three days. *Postmortem* revealed a forward dislocation of the cervical, its articular facets having just cleared those of the first dorsal. A brief consideration of the special liability of the seventh cervical to this kind of dislocation. The position is taken by the writer that an exploratory incision is the only positive method of diagnosis in similar situations.

Synopsis.—Dr. W. L. Worcester of Hawthorne, Mass., who died a few days previous to the meeting had announced a report of a case of cerebral hemiatrophy with hemiplegia and aphasia, in an adult. Woman, insane at twenty-four years of age, with katatonic symptoms. Recovered, and remained well up to the age of forty-nine, when she had another attack, with similar symptoms to the first. After having been under treatment for this attack for nine months, she had a series of severe convulsions, which left her with right hemiplegia, aphasia, both motor and sensory, and profound dementia. Death, nineteen months later, following another series of convulsions. At

autopsy, no focal lesion found. Great atrophy of left cerebral hemisphere and right hemisphere of cerebellum; moderate descending degeneration of the corresponding pyramidal tract. Appearance very similar to those found in same cases of infantile hemiplegia.

Dr. Edward Wyllys Taylor of Boston presented histories of three clinical cases as follows:

A Case of Poliencephalomyelitis.—Man of twenty-seven, previously well. Influenza in December, 1897. At this time insidious onset of various paralyses, fully developed by March 1, 1898. When examined in December, 1899, the following changes were observed: Paresis of motor portion of right fifth nerve, of all branches of right seventh nerve; paralysis of right external rectus (sixth nerve), paresis of left external rectus; impairment of hearing, especially on right side; paralysis of left recurrent laryngeal nerve; paresis of tongue; marked muscular atrophy of both arms, especially in forearms and hands. R. D. in distribution of cranial and spinal nerves. Insignificant sensory disorders. Improvement under treatment.

The Central Nervous System in a Case of Cancer of the Breast.—Woman of forty-four. Carcinoma of breast; metastases in vertebræ. Much weakness of legs, associated with *absent knee-jerks* and areas of disturbed sensation. Microscopic examination shows marked degenerative changes in ventral horn nerve-cells throughout the cord (Nissl) with secondary ascending degeneration, slight in amount, in the dorsal columns. Motor weakness and absent deep reflexes probably to be explained by alterations in the ventral horn cells, peripheral motor neuroses.

Poliomyelitis of the Adult.—Man of twenty-five, previously well. October 11, 1898, vague feelings of discomfort. Two days later somewhat sudden onset of loss of power in legs, associated with high temperature. Later arms became involved, with some difficulty in respiration. Diagnosis at hospital "Landry's paralysis." Paralysis was flaccid, with absent knee-jerks. Slight improvement in certain symptoms. Death about three months after onset of disease. *Microscopic examination:* Disintegration of ventral horns throughout the cord, extending in less degree to dorsal horns. Abundant evidence of violent inflammation, with extensive destruction of nerve-cells. Marked degeneration of nerve-roots and of sciatic nerve. White matter of cord uninvolved. The confusion of this condition with so-called "Landry's paralysis" is unjustified.

At the business session the following officers were elected for 1902: President, Dr. Joseph Collins of New York; Vice-Presidents, Dr. H. T. Patrick of Chicago and Dr. J. T. Eskridge of Denver; Secretary and Treasurer, Dr. Graeme M. Hammond of New York; Member of Council, Dr. G. L. Walton of Boston.

A note was adopted relative to the death of Dr. Landon Carter Gray, a former president of the Association and its representative to the Executive Committee of the Congress of American Physicians and Surgeons.

The date and place for the meeting of the Association in 1902 are left to the decision of the Council.

BOOK REVIEWS.

The Hygiene of Transmissible Diseases: their Causation, Modes of Dissemination and Methods of Prevention. By A. C. Abbott, M.D., Professor of Hygiene and Bacteriology, University of Pennsylvania. Third Edition. W. B. Saunders & Company. Philadelphia and London.

The fact that Dr. Abbott's book has reached a third edition in the short time since its original publication is a proof of the popularity of the work. The sections, especially on malaria, yellow fever plague, filariasis, dysentery and tuberculosis, have been revised and enlarged. The need for revision and enlargement of so many chapters in so short a time is a good index of the rapid advance in medical science at the present day. Dr. Abbott has succeeded in presenting a large amount of information in a small space. Most of the matter is taken from Dr. Abbott's lectures on Hygiene at the University of Pennsylvania, yet the subject is presented in a very readable way and without obtrusive technicalities. There is about the work in places an air of its having been written for the public rather than for the medical profession. The popularizing of information on hygiene is, however, one of the desiderata of the present generation when newspaper advertisements and other undesirable media are scattering supposed medical knowledge with an evidently interested motive.

International Clinics. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, etc., by Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D. Volume II., Eleventh Series. J. B. Lippincott Company, Philadelphia.

The feature of the present volume of the "International Clinics" is Dr. J. F. Schamberg's (Philadelphia) article on "Smallpox, With Particular Reference to the Present Epidemic." This is illustrated by an excellent colored plate of a mild case of smallpox, such as has been most commonly seen during the present epidemic. In this case the grouping of the smallpox lesions on the face, and especially about the lips and nose, was such as to make the affection resemble rather closely febrile herpes. The article is illustrated by five other plates in black and white of typical smallpox eruptions. The differential diagnosis of smallpox is discussed fully, yet briefly, and with the present prevalence of the disease the points

given can scarcely fail to prove helpful to those whose opportunities for the clinical observation of smallpox have been very limited.

There are two clinics on the subject of spinal analgesia. One of these is by Professor Tuffier of Paris, who first employed the method extensively enough to bring it prominently before the medical world. His conclusion as to the method is that whatever may be the field that surgeons shall ultimately assign to analgesia by means of spinal injections of cocaine, it will undoubtedly remain in practice by the side of local and general anesthesia. Professor Tuffier has now employed spinal analgesia in 252 operations, of which 142 were intraperitoneal and 110 extraperitoneal. Perhaps the most striking bit of statistics he gives is that 22 of the cases were private patients.

Dr. Doléris, accoucheur to the Paris hospitals, says that lumbar injections of cocaine have an oxytocic effect and are particularly prone to produce labor. He sums up the result of his observations as follows: (1) The lumbar injection of cocaine is contra-indicated for the execution of any operation during pregnancy, for miscarriage might ensue. (2) A new method of bringing on labor has been found in the use of these injections. (3) This process may render great service in case of uterine inertia during labor, particularly with a moderately contracted pelvis. (4) In eclampsia, when rapid evacuation of the uterus is indicated, the lumbar injection ought to be efficacious and may have a happy effect on the nervous reflex symptoms. This is a new field of usefulness that may prove of practical importance.

ATLAS OF THE NERVOUS SYSTEM. Including an Epitome of the Anatomy, Pathology and Treatment. DR. CHRISTFRIED JAKOB, Head of the Pathologic Institute for Nervous and Mental Disease at the University of Buenos Ayres; Formerly Assistant in the Medical Clinic. Edlangen. Edited by EDWARD D. FISHER, M.D., Professor of Diseases of the Nervous System, University and Bellevue Medical College, New York; etc. W. B. Saunders and Company, Philadelphia and London.

THIS is the authorized translation from the second revised German edition of the well-known German Atlas of the Lehman series of atlases. Dr. Fisher, the American editor, says in the preface that he knows of no work in which so much is compressed within so small a space. The book is comprehensive and practical. The work is certainly calculated to give a very good general idea of recent progress in neurology and brain pathology. The subject is, however, a large one and there are evident signs of the compression that has had to be practised. Somehow an impression remains after looking over the volume that, while it would add very little to the specialist's knowledge, too many details have been crowded into too small a space for it to be very practically instructive for the ordinary practitioner who takes up the book with no knowledge of nervous diseases.

The illustrations, especially those in colors, are beautifully reproduced and the accompanying tracings make excellent guides in brain anatomy and pathology. The illustrations from various cases of special disease of the nervous system are well done as regards plates and text, though it is in this portion especially that there are signs of compression which are almost too noticeable. The volume is an excellent example of good bookmaking at a reasonable price.

PATOLOGIA E CHIRURGIA DEI TRAUMI DEL RIGONFIAMENTO LOMBARE, DEL CONO TERMINALE E DELLA CODA EQUINA. By Prof. D. B. RONCALI. Editrice Dante Alighieri.

THE author of this book, Professor Roncali, is better known in America for his investigations with regard to the etiology of cancer than for work in the surgery of the nervous system. Of late years, however, he has published several books on this subject and in connection with Professor Durante's surgical clinic at the University of Rome has notably illustrated several important subjects. The present volume contains a very good review of our knowledge to date of the physiology, pathology and surgery of the lumbar enlargements, the conus terminalis and the cauda equina of the spinal cord. It is eminently a book for specialists and the indications and contra-indications for laminectomy should prove of practical value now that surgeons no longer consider injuries of the spinal cord beyond their domain. Some of the cases detailed are of great clinical interest because they represent types of unusual traumatic conditions.

MT. SINAI HOSPITAL REPORTS. Vol. II., for 1899 and 1900. Edited for the Medical Board by PAUL F. MUNDÉ, M.D., LL.D.

THE second volume of the Mt. Sinai Hospital Reports is a worthy successor to the first in that it gives a clear account of the excellent work done in that institution and that it enriches medical literature by a series of papers on interesting and exceptional cases. J. Rudisch reports the case of a patient with diabetes mellitus, acromegaly and excessive polyuria, in whom hyperidrosis was a troublesome symptom which persisted despite the administration of agaricine, opium, camphoric acid and petuitary extract; sugar could not be found in the perspiration. The second case is one of diabetes insipidus in which an enormous amount of urine—1010 fluid-ounces—was excreted on one day, and which was completely cured by suggestion; and the third an ambulatory typhoid complicated by bronchopneumonia with delirium and petechial eruption producing a picture resembling typhus.

J. Rudisch and E. A. Aronson in a short statistical article find that diabetes is not altogether a disease of the race, but rather of the class, since far more Germans of the higher class than Russians of the poorer were afflicted, despite the fact that most inmates of the hospitals belonged to the

latter. The relationship of fistula *in ano* to tuberculosis is discussed by Alfred Meyer who finds that 0.87 per cent. of cases of pulmonary tuberculosis observed had a fistula, and *vice versa* 9.3 per cent of fistula cases were consumptive. The frequency of the smegma bacillus in the fistulæ is emphasized and prolonged immersion in absolute alcohol or animal experiment is necessary to determine the presence of the tubercle bacillus. M. Manges insists upon the not too infrequent occurrence of typhoid fever together with pharyngeal diphtheria, despite frequent statements to the contrary, and draws attention to Bouveret's ulcers of the pharynx which he has seen in one case.

"Acute Lobar Pneumonia Followed by Purulent Pericarditis; Pericardotomy; Recovery," is the title of a paper by M. Manges and H. Lilienthal; the conclusions which these authors draw are that in these cases eucaine is the best local anesthetic and that the apparently simple operation of tapping is in reality more dangerous than incision, since the motions of the heart are not unlikely to cause tearing of a coronary vessel by the needle. M. Manges also contributes the notes on a case of exophthalmic goiter with diabetes mellitus and pigmentation and one of rheumatoid arthritis, with exophthalmic goiter in a girl sixteen years old, which are interesting on account of the rarity of the conditions.

N. E. Brill's paper on "Pneumonia and the Acute Hemorrhagic Diathesis" goes to prove that the latter is a rare accompaniment of the former in man, that it occurs more often with the streptococcus than with the pneumococcus and that it is more frequent after the decline of the pneumonia. A most careful bacteriological examination is evident from the article by N. E. Brill and E. Libman on a case of staphylococcemia followed by systemic pyocyaneus infection; it constitutes the first case in which these findings were made in an adult. The same authors also contribute on the subjects of chronic interstitial nephritis and arteritis in the young with a note on calcification in the liver.

Gliosarcoma of the base of the brain is most ably discussed by H. W. Berg, who points out the necessity of determining the side on which these neoplasms are situated by the cerebellar symptoms and the result of the involvement of neighboring structures, before operating. D. H. Davison's article is on the subject of purpura hæmorrhagica.

The report of the surgical and gynecological divisions includes a short account of the subdivision of the work among the staff, the provisions for asepsis and antisepsis in the operating-room, and a review of the many interesting cases and operations during the year. H. Lilienthal relates a case of simultaneous fracture of the vault and base of the skull with recovery and H. Brettauer three cases of primary carcinoma of the vulva.

Three articles written by E. Gruening speak well for the ophthalmic and aural divisions; the first deals with the rarity and the pathological findings of tubercle of the choroid in tuberculous meningitis; the second is instructive for the early recognition of choroidal sarcoma, and the last is a report of two successful operations for otitic brain abscess. C. H. May and C. Koller have also contributed, the former on mastoid operations, the latter on a case of thrombophlebitis of the left sigmoid sinus masking a latent brain abscess which ultimately ended fatally despite operation. These are followed by E. H. Eising's report of anesthesias during 1900 which demonstrates the greater preference for chloroform over ether. Spinal anesthesia apparently has not found much favor among the surgeons, since but three cases are recorded. The interesting volume closes with a paper on the etiology and embryology of dermoid cyst of the mediastinum by F. S. Mandlebaum, with report of a case.

ANATOMICAL ATLAS OF OBSTETRICS WITH SPECIAL REFERENCE TO DIAGNOSIS AND TREATMENT. By OSKAR SCHAEFFER, Privat Docent in Obstetrics and Gynecology in the University of Heidelberg. Authorized Translation from the Second Revised German Edition. Edited by J. CLIFTON EDGAR, A.M., M.D., Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College. W. B. Saunders & Co., Philadelphia and London.

IN THE preface the editor states that in the original Dr. Schaeffer's "Atlases" were most successful and he sees no reason why they should not be equally popular in the English language and we quite agree with him, since the volume before us will be invaluable for the student, not so much for his first insight into the department of obstetrics, but as a book of reference to be used in conjunction with the larger treatises. The lithographic plates can unhesitatingly be pronounced works of art and the schematic drawings lack nothing in accuracy. For a book whose main features are intended to lie in its illustrations, the text is remarkably full and concise. We are glad to see that that much-neglected subject, obstetrical pathology, receives some credit, though not as much as we would desire.

HOW TO COOK FOR THE SICK AND CONVALESCENT. Arranged for the Physician, Trained Nurse, and Home Use. By HELENA V. SACHSE, Graduate of the Philadelphia Cooking School. J. B. Lippincott Company, Philadelphia.

THIS is a collection of receipts of the best class based on certain dietary principles which are stated in the preface. The opening chapter deals with foods containing no starch or sugar or only a little sugar, and gives a short talk on utensils, weights and measures. Then follow chapters on meat preparations, milk, peptonized foods, drinks toasts, soups, gruels and mushes, eggs, sweetbreads, fish, mushrooms, breads, desserts, etc. There are many palatable dishes for diabetics, and other foods that would be tempting to the invalid's palate. Formulæ for Kumyss, limewater and other sick room necessities are given.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

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SPECIAL ARTICLES.

THE CASE OF THE PRESIDENT, CONTINUED.

ON Thursday evening of last week, after the MEDICAL NEWS for the issue of the 14th inst. had gone to press, rumors began to be rife of a change in the President's condition. The symptoms of failing circulation grew urgent and persisted in spite of vigorous stimulation. It soon became evident that a fatal termination of the case, which had seemed so hopeful up to that date, was only a question of time and that the end was not far off. Science could do little more than delay for a few hours the inevitable.

Cause of Death.—The question that interested all citizens and especially the medical profession of this country and, it may well be said, of the world was, What was the cause of the fatal issue? The autopsy was expected to give a clear answer and remove the dark mystery which had baffled the diagnostic skill of the remarkable assembly of medical and surgical experts whose assistance had been sought. The official abstract from the autopsy findings showed very clearly that death was inevitable from the beginning. The wounded internal tissues, instead of reacting so as to produce union, became gangrenous. The declaration in the matter was most explicit. The signed report reads as follows:

"The bullet which struck over the breastbone did not pass through the skin and did little harm.

"The other bullet passed through both walls of the stomach near its lower border. Both holes were found to be perfectly closed by the stitches, but the tissue around each hole had become gangrenous. After passing through the stomach the bullet passed into the back wall of the abdomen, hitting and tearing the upper end of the kidney. This portion of the bullet track was also gangrenous, the gangrene involving the pancreas. The bullet has not yet been found. There was no sign of peritonitis or disease of other organs. The heart walls were very thin.

"There was no evidence of any attempt at repair on the part of Nature and death resulted from the gangrene, which affected the stomach around the bullet wounds, as well as the tissues around the further course of the bullet. Death was unavoidable by any surgical or medical treatment and was the direct result of the bullet wound."

This indicated that death was due to the gangrenous process, but gave very little clue to the cause of the gangrene. Internal tissues injured by bullet wounds do not become gangrenous unless there is some circumstance in addition to the mere passage of a bullet. What this accessory factor could have been has occupied general attention during the week.

Was the Bullet Poisoned?—It was suggested at the autopsy by a well-known medical authority that the bullet was poisoned. Chemical and bacteriological examinations of the cartridges left in the revolver will have to be made to determine definitely this point. In the meantime certain considerations seem to render such an hypothesis unlikely. The poison could scarcely be a chemical irritant, since a 32-caliber bullet could not carry on its outer surface enough of any chemical that is ordinarily known even to medical men to produce such a fulminant death of tissues. As will be remembered scarcely more than one-half the surface of the bullet in a cartridge is exposed for coating with foreign material and any such material would be removed in a great degree during the course of the bullet through the revolver barrel, the clothing and external tissues of the victim. There are popular traditions of virulent poisons that act in minutest quantities, but medicine knows of none that would act as this one is said to have done.

Was the Poison Used a Bacterial Agent and not a Chemical Compound?—this is more possible, but there is no known culture of bacteria that will produce gangrene locally without giving signs of a general septic condition. It has been suggested that if the bullet were dipped previous to insertion in the revolver in putrid meat, gangrene would result wherever it came in contact with the tissues. This would not produce local death of tissue without provoking a reaction. Such a procedure might cause sepsis, but not gangrene, unless the vitality of the parts wounded had been very much reduced. Gangrene is not putrefaction, which is an active biological process due to the presence of living germs, but is death of the tissues involved.

Wound of the Pancreas.—It has been suggested that the President's death was directly due to a wound of the pancreas. The secretion of the pancreas is supposed to have escaped and followed the track of the bullet causing by its presence the gangrene or local death of the tissues wherever it flowed over the wounded part. Against this theory there are a good many objections. The first and most important one is that the track of the bullet seems to have been such that the pancreas was not wounded. The bullet passed through the walls of the stomach near its lower border and so its course would carry it several inches below a normally situated pancreas. Besides this, supposing there was a wound of that organ, pancreatic secretion might

easily have reached the wound in the posterior wall of the stomach, but it is hard to understand how it could have found its way to the anterior gastric wall, since the surgeons declare that the President's stomach was found nearly half-full of food at the time of the operation. A wound of the pancreas, supposing a prolapse of that organ to account for such an accident, would have taken place near its tail where the pancreatic ducts are small and there would be very limited discharge of its secretion.

With regard to the effect of the pancreatic juice, while it produces necrosis of fatty tissue, it does not produce gangrene. The characteristic appearance of the peritoneum where a discharge of pancreatic juice has taken place is well known to those who have seen many autopsies and would have been recognized at once by the experienced pathologists who made the autopsy.

It is true that we are in the dark to a great extent with regard to all the effects of injuries to the pancreas. It is now nearly twenty-five years since Senn, of Chicago, published his work on the surgery of the pancreas of animals, which formed the basis of all medical knowledge on the subject throughout the world, and very little progress has been made in the matter since that time. The surgery of the pancreas was one of the questions for special discussion at the last International Medical Congress and the conclusions reached at that time show how lacking we are in definite knowledge notwithstanding the recent great advances in abdominal surgery.

This much is certain, however, that wounds of the pancreas are by no means necessarily fatal. The escape of pancreatic fluid produces characteristic foci of fat necrosis, but does not produce the lowering of vital resistance which would lead to local death of all tissues with which it happened to come in contact. A number of recoveries from wounds and operations on the pancreas are reported and gangrene is not one of the complications or sequelæ usually anticipated.

Possible Factors in the Result.—There remain certain other organic injuries that may have had their effect in producing the lowered vitality of tissue which led to localized gangrene and consequently to the fatal termination. An extremely important organ, well known in recent years by reason of certain fatalities that have been attributed to it after blows in the region of the stomach, is the solar plexus. The disturbance of the President's pulse during the first few days after the operation was attributed by one of the most prominent surgeons in charge of the case to irritation of this extremely sensitive organ, the abdominal brain as it has been not inaptly called. Unfortunately our knowledge of the functions of the various parts of the nervous system and especially of the abdominal sympathetic nervous system is not sufficient to enable us to say with any degree of assurance what would be the effect of direct injury or serious irritation of this organ. The manipulations necessary for the suturing of the wounds in the stomach had to be carried out in the immediate neighborhood of this delicate organ. This is true, however, in all wounds of the stomach and usually there are no serious consequences. It is not impossible that the irritation produced by the passage of the bullet itself and the subsequent operative procedures should have produced serious sympathetic nervous disturbance. The smaller blood-vessels are especially under the control of the sympathetic. This nervous irritation might have produced the interference with the circulation that led to the local death of tissue. But the direction of the bullet in its course from front to back was away from rather than toward the median lines where it would have involved the solar plexus.

Another consideration that seems worth while discussing is the possible effect of a wound of the suprarenal capsule. The bullet, after its passage through the stomach, tore the upper part of the left kidney and injured the left suprarenal body. A few years ago this would have been considered of no special significance. Now we know that the secretion of the suprarenal capsule is an active agent in producing localized contraction of blood-vessels and consequent diminution of the circulation in tissues. Whether this could have had any effect in lowering the vitality of the wounded tissues and so inducing gangrene is doubtful, but must not be left entirely out of consideration.

There remains the question of the President's individual resistive vitality. There are persons whose reactive power is extremely limited. Diabetics, for instance, are prone to suffer from gangrene after very slight injuries. The late President did not suffer from diabetes, but for some time an abnormal condition of his kidneys has at least been suspected. His age was a factor against his prompt recovery, but should not have made it impossible. Constitutional lack of reactive vitality seems the most important element in the unfortunate and unexpected fatal issue.

It is clear that no human skill could have saved the President's life and that everything that modern scientific medicine could possibly suggest was done for him. The surgeons have been all too freely blamed for their optimistic bulletins. Their wishes may have obscured their better judgments. It is always easy to be wise after the event. At noon on Tuesday, September 9th, the President's pulse was 104 and his temperature below 100° F. This certainly presented a most encouraging condition of affairs after the shock to which the patient had been subjected. There was every reason to think that danger from infection was past. The fatal issue emphasizes the necessity that always exists for most careful prognosis whenever patients are much advanced beyond middle life. The present case, however, contained elements so entirely unusual that no human foresight or even the greatest possible caution could have prevented the sad disappointment that ensued.

ORIGINAL ARTICLES.

DISAPPEARING TUMORS.[1]

BY A. S. WARTHIN, PH.D., M.D.,
AND
W. A. SPITZLEY, A.B., M.D.,
OF ANN ARBOR, MICH.

SCATTERED throughout literature are more or less vague descriptions of tumors supposed to be true neoplasms which, under observation, apparently disappeared and did not recur. In the majority of cases this disappearance was spontaneous or resulted from such slight operative procedures as exploratory incision or puncture. In a few cases it followed operation upon other organs or occurred as the result of a treatment wholly palliative in nature. The tumors described in these cases were not of the nature of "phantom tumors," but were new growths of tissue evident to sight and touch and accessible to surgical examination. If we exclude all of the so-called "phantom" or "apparent" tumors which have been reported under the head of "vanishing" or disappearing" tumors, there is left a fairly large class of cases presenting actual new growths of tissue which under certain conditions either temporarily or permanently disappeared. Occurrences of this nature have most probably come within the experience of nearly every surgeon of large practice, and, while references to such cases are not infrequently met with, no adequate attention has been paid to them.

An analysis of the reported cases of such disappearing tumors shows but few instances in which the pathological nature of the growth was ascertained by microscopical examination, and the clinical data are so confused and unreliable in the majority of cases that they possess but little scientific value. This is true also of some of the cases in which the growth was examined microscopically, the descriptions throwing doubt upon the correctness of the diagnosis. This is especially true of the older cases in which the diagnosis was made at a time when pathological classifications were not based upon such close lines of differential diagnosis as those of to-day. Eliminating such doubtful cases, as well as all cases of phantom tumor, fecal impaction, floating kidney or liver, enlarged liver or spleen, distended urinary and gall-bladder, tuberculous and syphilitic conditions, and also eliminating all cases in which disappearance could possibly be traced to medication (arsenic, cancroin of Adamkiewicz, Coley's toxins, etc.), or in which it could be traced to definite infections, destructive processes of the growth itself, or to intercurrent affections influencing the growth, the reported cases of disappearing tumors fall into three definite classes, viz., benign and malignant neoplasms and inflammatory growths.

Of the benign tumors most frequently undergoing retrograde changes leading to spontaneous disappearance are the different forms of hemangioma and lymphangioma. Power and Johnson have reported cases of the complete disappearance of cystic lymphangiomata of the neck in children. Cavernous and telangiectatic angiomata not infrequently become completely obliterated through thrombosis and subsequent organization of their blood-spaces, the contraction of the newly formed tissue leading ultimately to insignificant scars. Evidences of such spontaneous healing are of frequent occurrence in the cavernous angiomata of the liver. The smaller vascular growths of the skin, pigmented and non-pigmented moles also frequently undergo spontaneous resolution.

Lipomata in rare cases may spontaneously disappear without known cause. Within the past year such a case has come under Spitzley's observation. Thirteen months ago, he saw a boy thirteen years old with a tumor in the right supraclavicular region. The tumor had been of slow growth, having been observed six or seven months before as a small nodule, gradually increasing in size until it was as large as a lemon, though much flattened. It presented all the clinical features of a lipoma, being smooth, soft, painless, situated apparently in subcutaneous tissue and freely movable, without involvement of the skin or deeper structures. At that time operation was advised, but not urged, the possibility but improbability of its spontaneous disappearance being suggested. The parents decided to wait for a time to see whether it would increase to a still greater size. Nothing was heard concerning the case for over a year, when the boy was brought for examination for another trouble; and then in spite of most careful inspection and palpation, no trace of the tumor could be found. It is of interest to note that the boy who, at the time he was first seen was stout, even fat, had during the year lost ten or fifteen pounds in weight.

Nasal polypi may ulcerate and disappear, or through twisting and necrosis of their pedicles remove themselves. Small papillomatous fibromata of the skin not infrequently disappear. Pedunculated fibromata or myofibromata of the uterus may become detached through the tearing or necrosis of their attachments, or, as a result of disturbed blood-supply following such twisting, the entire tumor may become necrotic and be expelled or absorbed. Retrograde changes are of very frequent occurrence in myofibromata; either myxomatous or fatty degeneration, simple necrosis or liquefaction necrosis of the entire tumor may take place, leading to its ultimate complete disappearance. Gibert and A. Martin report many cases of spontaneous regression of uterine fibroid and myofibromata. Chondromata may rarely undergo fatty or myxomatous degeneration and completely disappear. Likewise exostoses may be re-absorbed.

Of the benign epithelial tumors adenomata or glandular hyperplasias of the prostate have disappeared or become smaller after removal of a

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testicle or section of the vas deferens; fibro-adenomata and cystadenomata of the mammary gland have been similarly affected after ovariotomy. Benign mammary tumors have also disappeared under the influence of pregnancy and lactation. Bryant reports two cases of vanishing mammary cysts. Spitzley has at present under observation a woman forty-seven years of age, who has borne no child for fifteen years, but who on the contrary has shown no sign of climacteric phenomena, in whom during a period of eighteen months there have developed five separate and distinct breast tumors, three in one breast and two in the other. The smaller one was the size of a hazel nut and the larger the size of a butter nut. They were presumably cysts although two of them were so hard that it seemed unlikely that they contained fluid. Unfortunately, through fear, the patient would not allow any kind of surgical interference, not even the introduction of an exploring needle, so that Spitzley is unable to state positively their real nature. The important point, however, is that without medication or manipulation of any kind, each of the tumors disappeared, none of them remaining longer than three months.

Cases of spontaneous resolution of malignant tumors are of much more rare occurrence. The well-known tendency of all rapidly growing malignant tumors to undergo retrograde change rarely reaches a point where it equals or exceeds their proliferative activity. Therefore, while it might be said that all or the majority of the malignant tumors show a tendency to self-limitation of growth through retrogressive metamorphoses, this tendency is but rarely exerted to a practical degree, the peripheral proliferation always surpassing the central death, so that the patient affected dies before the processes of tumor destruction equal or exceed those of proliferation and spread. In a few cases, however, the retrograde processes with subsequent formation of granulation tissue are much more actively manifest, so that actual healing of tumor nodules may take place. Warthin has reported a case of primary polymorphous-cell sarcoma of the nose with universal metastases in which many of the secondaries showed a partial or complete healing, having been replaced by scar tissue. All stages of this process could be traced in different nodules in various portions of the body. The same observer has seen very remarkable evidences of healing in the lung-metastases of a primary sarcoma of the vertebræ. Power, Walsham, and Baker report cases of healing of tumors diagnosed as sarcomata. Baker's case (recurrent tumor of scalp following injury) gave a microscopical appearance of a fibro-sarcoma, and the growth was designated by him as a "withering sarcoma." The tendency of the growths in mycosis fungoides (general sarcomatosis of the skin) to spontaneously disappear forms one of the most striking features of that disease. This disappearance is explained by Orth to be due to a preponderance of cell-decay over cell-growth, the defect thus produced being filled in with scar-tissue. Cases of spontaneous disappearance of carcinomata are more rare than of tumors diagnosed as sarcomata. This is probably due to the fact that some of the tumors regarded as sarcomata were in reality granulation tissue growths; but may also be partly explained by the closer relation of some forms of sarcomata to normal connective tissue and the fact that this is conducive to the formation of scar-tissue.

In connection with this question of retrogressive changes going on in neoplasms, one must, of necessity, take into account those cases in which acute infectious processes supervene, involving the neoplasms themselves and destroying them. Such tumors can not in the true sense be called disappearing tumors any more properly than can those subjected to the action of the mixed toxins. M. Richardson, before the American Surgical Association in 1898 reported a case of destruction of a round-celled sarcoma by wound infection; and recently a case has been reported in which infection supervened in the wound of an operation attempted for the clearing out of a carcinomatous axilla (secondary to mammary carcinoma), but abandoned because of the extraordinary involvement of all tissues, and three and a half years later showed no evidence of remaining malignant disease, the infection having presumably destroyed all involved tissues. As mentioned above, however, such cases should not be considered in the light of disappearing tumors, but as shining examples of accident pointing the way to successful therapeusis.

Kaposi has reported instances of spontaneous cure of epitheliomata of the skin. Stoerck reports an epithelioma of the tonsil disappearing without interference, but recurring within a year. Senger claims to have seen certain tumors of the buccal mucous membrane having the microscopical appearance of carcinomata disappear after the removal of jagged and irritating teeth. Doubt upon the carcinomatous nature of these growths has, however, been raised. Freeman describes a case of apparent disappearance of epithelioma of the lip, with fatal development of secondaries in the submaxillary region two years later. Billroth and many others report instances, particularly in old women, of the spontaneous disappearance or decrease in size of scirrhous cancers of the mammæ. Recently Osler has reported two cases of spontaneous disappearance of secondary growths arising from primary mammary cancers. He quotes similar cases of Vulpian and Gould. Since the use of erysipelas toxins in the treatment of inoperable neoplasms a number of cases are reported in which great reduction in size followed injection of these toxins into the new growth. No well authenticated case of complete cure by such treatment has been reported, and it is probable that the only effect of such treatment is to cause a more rapid retrograde process whereby the size of the tumor becomes rapidly reduced.

Into the third class of disappearing tumors falls a large class of new-formations of tissue which

are not of the nature of neoplasms. They are found chiefly in the peritoneal cavity, omentum or retroperitoneal region. Though in many instances mistaken both on physical and surgical examination, and in a few instances on microscopical examination, for sarcomata, they are in all cases to be regarded as of inflammatory origin. They arise in almost every instance from a local peritonitis, whatever its cause, but are most frequently found in association with appendicitis and salpingitis. The physical characteristics of these tumors vary greatly. They may form large, small, round, nodular, flattened, movable, immovable, sensitive, or painless masses presenting in any portion of the abdomen or pelvis. The greater portion of these tumors is usually formed by the omentum which almost immediately attaches itself to the inflamed area. Granulation tissue is rapidly formed in large amounts and a tumor mass is formed which may be acute, disappearing ultimately; or chronic, forming a thickened mass of scar tissue which may or may not be adherent to other portions of the peritoneum. Such tumors may occasionally reach a large size from extensive formation of granulation tissue or from the presence of pus-cavities. Similar formations of granulation-tissue may be found retroperitoneally in cases of pancreatic or renal disease, and also in association with appendicitis. In the great majority of cases the omental tumor follows appendicitis or salpingitis. In this connection should be mentioned a class of tumors of great importance but to which little attention has been given. Chronic inflammatory swellings of the head of the pancreas in association with cholelithiasis are not of infrequent occurrence. A number of these cases have been reported in which there was such enlargement of the head of the pancreas found in operating for gall-stones that the condition was diagnosed as primary cancer of this organ, but total disappearance of the tumors took place within a year or two after the removal of the gallstones. This condition has been variously interpreted, but no adequate explanation has as yet been reached. It may exist without involvement of the common duct through obstruction by gall-stones.

Summing up the reported cases of the disappearance of tumors consisting of actual new growth of tissue, we find that such event is of too rare occurrence to justify delay in operative procedures. While a few benign tumors may spontaneously heal, even in these cases there are inconveniences, and in case of necrosis, actual dangers in permitting this process to take place. In the case of malignant tumors the instances of complete disappearance are so rare and in the majority of cases so doubtful that this event is to be regarded in the light of an interesting pathological phenomenon without practical clinical value. Only in the third class of disappearing tumors, the inflammatory growths, may operative measures be delayed or dispensed with entirely with reference to the possibility of spontaneous cure. In all cases, however, the microscopical nature of the growth should be ascertained when possible. Further, it is practically only in the case of abdominal and pelvic growths that growths of this nature are to be looked for. The following cases are most interesting examples of disappearing tumors of this class, and are of additional value for the reason that microscopical examination was made of the tumor in two of the cases, thereby affording satisfactory explanation of this clinical course. The first three came under our observation in the surgical clinic service of Dr. Nancrede of the University Hospital.

Case I.—Mr. L. A., aged twenty-eight years, Danish farmer, was admitted to the surgical clinic of the University Hospital, January 23, 1899. He gave a clear history of an attack of acute appendicitis occurring six weeks previously. On admission to the hospital, there was no evidence of any continuation of the acute condition either locally or generally. There was, however, a distinct tumor, very hard and without pain or tenderness, palpable in the right iliac region and for this condition on April 10, 1899, exploration was undertaken. The tumor mass was found to be intimately connected with the tissues of the anterior abdominal wall. There were softened areas in it but no real pus. The mass was believed to be a neoplasm; the softened parts were curetted, but because of the involvement of the appendix, omentum, caput coli, anterior and lateral abdominal walls, no attempt was made to remove the appendix. Tube drainage was instituted and the wound was closed in the usual way; there was never any evidence of suppuration.

When the patient was discharged seemingly all trace of the tumor had disappeared. According to a report from the patient a few months ago, he has remained well so far as his appendiceal region is concerned.

Pathological Report.—Small portion of tissue sent for examination. Fixed in bichloride and embedded in paraffin. The sections first examined showed a structure composed almost entirely of thin-walled blood-vessels surrounded by a mass of round spindle cells lying in a scanty reticulum. The resemblance to an endothelioma was so great that a preliminary diagnosis of this nature was sent in. Further study with different staining methods showed that the tissue was of the nature of granulation tissue and not malignant. Such diagnosis was therefore sent to the surgeons a few days after the first one. The diagnosis of granulation tissue was based upon the presence of numerous plasma and mast-cells, the rarity of mitoses, and the presence in areas of small vessels having greatly thickened walls and hypertrophic endothelium as in chronic granulation tissue. Staining for micro-organsms negative. Diagnosis, granulation tissue, probably resulting from appendicitis.

Case II.—Mrs. C. S., aged 40 years, was admitted to the University Hospital, March 4, 1899. She complained of intense abdominal pain. Her history showed that she had had an attack of peritonitis when she was sixteen. In November,

1898, and in January, 1899, she had attacks of severe abdominal pain lasting several days. This pain was accompanied by marked febrile symptoms; there was present also during the most recent attack, a tumor in the right iliac region, which disappeared synchronously with the fever.

When admitted to the hospital she had been ill for a week or two; she had considerable abdominal pain, beside many signs and symptoms of an infectious process. There was also slight tumefaction in the right iliac region and about the umbilicus. She was operated upon on March 6, 1899. The incision was made in the right linea semilunaris; a mass was found which involved omentum, small intestines, colon and anterior abdominal wall and which contained many enlarged lymph-glands. No macroscopic pus was present. The appendix, together with part of the attached omentum was removed, the wound drained and closed. She made an uneventful recovery and is now well.

Pathological Report.—The fresh specimen consisted of a flattened nodular mass about the size of a man's fist. On section it was extremely vascular, resembling granulation tissue. Small areas of fat tissue were visible on the cut surface. The material was fixed in bichloride of mercury and embedded in paraffin. The microscopical sections showed the mass to consist of the inflamed omentum with extensive formation of granulation tissue about the blood-vessels and upon its surface. Large areas of small-celled infiltration were present, in some places amounting to purulent collections. In these large numbers of cocci and bacilli were present. Diagnosis, subacute inflammation of omentum following rupture of appendix.

Case III.—Mr. A. J. W., aged fifty-two years, came to the University Hospital on April 17, 1899, because of a large abdominal tumor. He had first noticed the tumor in December, 1898, at which time there was considerable pain and tenderness present and since which time, he had had five distinct attacks of pain occurring in the region of the tumor. He had lost considerable in weight and was cachectic in appearance; at no time while under our observation was fever present. Exploration was undertaken on April 24, 1899. The incision extended from the ensiform cartilage to below the umbilicus and was made in the linea alba. The incision revealed an immense tumor involving the stomach, the sigmoid flexure, the regions posterior to the stomach and colon, the descending colon, and the transverse colon. The tumor was very hard, the neighboring lymph-nodes were much enlarged; there was no suppuration and the tumor did not apear like an inflammatory mass. It was impossible to remove the mass; after irrigating the abdominal cavity with normal saline solution, the wound was closed. The patient made an uneventful recovery from the operation and was discharged in four or five weeks. In August, 1899, the patient reported that he had gained forty pounds in weight and was in perfect health. Three months ago, he reported that he continued to be well and that all trace of the tumor had disappeared.

Unfortunately, no part of the tumor was removed for microscopical diagnosis. It was believed to be malignant and was inoperable. During his convalescence and afterward, naturally the question of a possible tuberculous condition came into mind, but, from observation of the case, it is impossible to conceive it to have been such.

In addition to the above, five other cases have come to our notice in which seemingly malignant growths, or at least seeming neoplasms, have curiously disappeared; three of them occurred in the practice of Dr. J. H. Carstens of Detroit, and two in the practice of Dr. Donald McLean of Detroit. We shall not report them in detail, but merely state that of the first three one was a case in which gastro-enterostomy was performed for relief of a rapidly growing pyloric tumor, believed to be sarcoma. Not only was there relief from the symptoms of obstruction, but there was was marked decrease in size, in fact disappearance of the tumor. At the end of two years the patient died; no autopsy was obtained.

Another was a case in which exploratory incision revealed a great number of small abdominal tumors involving all the viscera. They were thought to be multiple sarcomata. At the end of three years the patient is well.

The third case is one in which all the viscera were involved in one large mass. There were symptoms of pyloric stenosis; the tumor was thought to be carcinamatous and was inoperable. At this time, two years since exploration, the patient is well and the mass has disappeared.

Of Dr. McLean's two cases, one was a patient in whom he was induced to make an exploratory incision, although the large abdominal tumor present was believed to be and was found to be inoperable. Three months later, he had occasion to see the patient and careful examination failed to reveal a trace of the mass remaining.

The other patient was a woman, sixty years of age, who had a very large abdominal tumor. She was confined to her bed because of its size and weight. Nothing was done to relieve her condition, it being believed that death must soon ensue. He had her under observation for four or five years during which time the tumor gradually decreased in size, until it had completely disappeared. The patient lived to be more than eighty years old.

In conclusion, we wish to emphasize a few points which are of some clinical importance:

First, that in spite of skilful clinical observation, the ultimate behavior of a tumor is seldom to be determined except by microscopical examination, and that many seeming malignant neoplasms are taken to be such when really they are but the outcome of an inflammatory condition.

Second, that probably no true neoplasm, malignant in nature, ever disappeared except through retrograde changes induced into itself through in-

fection of the tumor tissue, or through affections or infections of other parts of the body having, by reason of toxins, practically the same effect. To this there are extremely rare exceptions in which the disappearance of the growth takes place by an excess of retrograde processes over those of growth.

Third, that we must look to the inflammatory process, acute or chronic, for the explanation of the appearance and disappearance of these masses of tissue which before and even during exploration appear to be actual new growths.

THE DILATATION OF THE CERVIX UTERI IN OBSTETRIC PRACTICE.[1]

BY HENRY J. GARRIGUES, A.M., M.D.,

OF NEW YORK;

CONSULTING OBSTETRIC SURGEON TO THE MATERNITY HOSPITAL; VISITING GYNECOLOGIST TO ST. MARK'S HOSPITAL; HONORARY FELLOW OF THE AMERICAN GYNECOLOGICAL SOCIETY, ETC.

CÆSARIAN section and symphysiotomy make a great impression on the lay mind and probably to a considerable extent on that of the general practitioner, but we who have performed all obstetric operations know that in reality these two are very simple. To do a forceps operation well is often much more difficult and requires more skill than either, and version and extraction are the acme of obstetric art. Still the number of those who feel competent to perform Cæsarian section or symphysiotomy, and who can command the necessary assistance, is small and chiefly limited to those who are connected with a lying-in hospital, while almost every practitioner of medicine, especially those living in the country or in small towns, is forced to use the forceps and perform version.

The forceps should never be applied before the os is completely dilated, and the same rule holds good in regard to version, if it is to be followed by immediate extraction. The consideration of the means at our command for inducing, increasing and completing the dilatation of the cervix comes therefore as a proper introduction to the discussion of forceps delivery and version. But unfortunately the time accorded each reader of a paper this evening is so short that I can not do more than skim the subject.

During pregnancy dilatation of the cervix is especially needed in abortion cases, artificial abortion, and induction of premature labor. The first two can hardly be called deliveries, and are therefore outside of the scope of the present disquisition.

Labor may be induced in many ways, but some of them have proved vastly superior to others in regard to efficiency, safety, and expeditiousness. While the obstetrician always can perform artificial abortion, it is not so with induction of premature labor. Here the collaboration of Nature is an absolute requisite and must be solicited. We can do much to help Nature, but the one thing we must await from her side is the contraction of the muscular wall of the uterus—without uterine contraction, no labor. In most cases of this kind there is no hurry, and then it is well to use repeated vaginal douches with hot water or alternately hot and cold water. This may be combined with the tamponade of the vagina. Both these methods have, however, the drawback that they impair the epithelium of the vagina, and they may be dispensed with, if a bougie can be introduced into the cavity of the uterus. For this purpose we choose an English bougie No. 10, the French being too flexible. First the bougie is disinfected by immersion for ten minutes in a solution of bichloride of mercury (1-1,000) and lubricated with boiled glycerin, with or without the addition of corrosive sublimate (1-1,000). It is introduced without a stylet, which would make it too stiff. The patient is placed in Sims' position, a Sims speculum is introduced, the cervix is seized with bullet forceps, and the bougie is inserted in one of the sides of the uterus, in order to avoid the placenta, which generally is attached to the anterior or posterior wall. It should be pushed in to its full length except the last two or three inches, which are bent in a circle at the vault of the vagina and held in position with a pledget of iodoform gauze.

When the cervical canal is sufficiently dilated to admit a finger, then the bougie may be removed and Robert Barnes' dilators used instead. The action of the cervical bags may be intensified by placing a colpeurynter in the vagina. If labor pains are not brought on, Champetier de Ribes' large, pear-shaped, inelastic bag may be introduced into the uterine cavity and left till it is pushed out by uterine contraction, or this action may be combined with a downward pull either by the hand or by a weight.

If the bougie and dilators have not brought on labor pains, or at least not sufficiently strong ones, the bag of waters may be ruptured.

Some years ago the injection of glycerin into the cavity of the uterus was recommended, but in some cases it gave rise to hemoglobinuria and chills, and therefore this method should not be used. Finally, the constant electric current may be applied at intervals, like labor pains.

During labor it is, especially in cases of placenta prævia or eclampsia or in threatened death of the fetus, that dilatation of the cervix is called for, and in these cases it is desirable to obtain full dilatation in the shortest possible time. In other cases in which the os opens imperfectly, the cause is nearly always a mechanical disproportion in the size of the fetus and the parturient canal.

I shall now briefly review the means we have of dilating the cervix during labor.

Certain drugs are of more or less value in this respect and may be used where there is no imminent danger or may be combined with the mechanical resources we presently shall enumerate. From olden times belladonna has been used. To smear the unguentum belladonnæ on the cervix must be looked upon as obselete on account of the

[1] Read as part of a symposium on "Means of Artificial Delivery" before the Obstetric Section of the Academy of Medicine.

danger of infection, but in the refined shape of atropine dissolved in sterilized water it may be injected into the tissue of the cervix in the dose of $^1/_{40}$ grain.[1]

The cervical portion may be painted inside and outside with a 10 per cent. solution of cocaine.[2] Chloral hydrate, gr. xv. every twenty minutes for three or four doses, is excellent. Antipyrine, gr. x every half hour, three doses if necessary, has undoubtedly great oxytoxic value, and so has strychnine, gr. $^1/_{30}$, repeated every twenty minutes until gr. $^1/_{10}$ has been given. Quinine in 10-grain doses has also been praised. Ipecacuanha, gr. ij to v, repeated every twenty to thirty minutes, is disagreeble inasmuch as it nauseates the patient, but it conquers rigidity of the cervix.[3]

Among the mechanical means of dilating the cervix I shall first mention tamponade. This may be applied to the vagina, the cervix or the interior of the body of the uterus. A good way is to insert a strip of iodoform gauze into the cervical canal as far as it will go and pack the vagina with the same material or cotton wrung out of creolin (1 per cent.). The next day the packing is removed, and then the internal os will probably be found sufficiently dilated that new gauze may be placed beyond it, inside of the lower uterine segment, where it works as an irritant calling forth uterine contractions.

If the situation is such that we want the os dilated as rapidly as possible, for instance, in a case of uterine hemorrhage, we have different resources, namely, manual dilatation, dilatable bags filled with fluid, expanding metal dilators, and deep cervical incisions.

Manual dilatation is of great value. Those who have not tried it, have no idea how often the cervix toward the end of pregnancy may be so dilatable that in fifteen or twenty minutes it may be fully dilated. Manual dilatation as exercised nowadays differs much from what was known a few years ago. Until then it was really an *accouchement forcé*. We introduced first one finger, then two, three, four, then the whole hand, formed into a cone, always pressing upward with counterpressure on the fundus. In 1894 Dr. Philander A. Harris[4] of Paterson, N. J., taught us his method of dilatation by which the cervix is opened by pressure with the index finger and then dilated by lateral pressure exercised with the crossed thumb and fingers, using the flexor muscles. I regret that time does not allow me to say more about this method than that it has given entire satisfaction in my hands.

The other modern method is that of Bonnaire of Paris (1897). The first step is the same as in Harris' method. When the cervix is closed, the right index-finger is pressed through the whole cervical canal. It is then used to massage the surrounding tissue in an eccentric direction, until the index-finger of the other hand can be brought in, back to back with the first. These two now exercise lateral pressure until a third finger can be introduced, and so forth, until the three longest fingers of each hand are inserted, by means of which the cervix is fully dilated.

Either of these methods is preferable to the old pressure with the cone-shaped hand, which is apt to cause great tears, and it is preferable to any hard dilating instruments. Having the fingers directly in contact with the tissue we press on, we can better judge of its condition, and treat it with greater gentleness.

Bags capable of being filled with fluid are also of the greatest value. We have two classes of apparatus, the elastic and the unyielding. The elastic bag was first used in the vagina as Braun's colpeurynter, then in the cervix as Robert Barnes' fiddle-shaped bags, and, finally, in the uterus above the cervix—Tarnier's balloon.

Braun's colpeurynter acts slowly by inducing uterine reflex action. Tarnier's intra-uterine bag obtains the same by action directly on the lower uterine segment. Barnes' cervical dilators add to this irritation direct expansion of the cervix. They are most excellent as far as they go, but the largest dilatation obtained by them is only seven inches in circumference, or about two and one-quarter inches in diameter.

It was therefore a decided progress when Champetier de Ribes in 1888 invented his pear-shaped, unyielding bag, which when fully dilated measures nearly four inches across the base. German obstetricians (Mäurer, Arthur Müller and others) have made the bag much stronger and applied a new principle to it by attaching a rope to the tube of the bag, leading it over a pulley, and hanging weights weighing from one to three kilograms at the other end of the rope.

But in spite of indisputable merits these instruments are not without drawbacks. They are apt to provoke too rapid and violent labor pains, they favor the prolapse of the umbilical cord, and they may push the presenting part away from the brim of the pelvis. It is also a drawback that special, somewhat expensive and heavy forceps are needed for their insertion. The bag is particularly praised for induction of premature labor, which it accomplishes in much shorter time than does the bougie treatment.*

It is also of the greatest value in cases of placenta prævia, the treatment of which it has changed. Instead of turning by Braxton Hicks' method and using the thigh and breech of the fetus as tampon, the large unyielding bag, introduced through the torn membranes or perforated placenta, arrests the hemorrhage and allows the use of the forceps, which in Pinard's service has reduced the maternal mortality to 2.6 per cent. and the infantile to 6.8 per cent.[5]

The hard dilators can also be divided into two classes—those with which pressure is exerted all over the circumference, but chiefly in the direction of the longitudinal axis of the cervical canal, and those which exercise only lateral pressure, but then necessarily only on comparatively small parts

* Rubeska, of Prague, Centralbl. f. Gynäkologie, Vol. XXIV., p. 1138, reports an average of thirty-five hours compared with fifty-five hours.

of the cervix at a time. The first class of instruments is either cone-shaped or olive-shaped—Hanks' coniform dilators, which are a modification of Hegar's, his large olive-shaped dilators, and my own olive-shaped dilators, which fill the gap between the two. These instruments are all appropriate in abortion cases. In delivery at or near term, the other class is preferable. There is a variety of hard dilators with a number of branches varying from two to four—Arthur Müller's, Starlinger's and Gau's have two, Tarnier's and Bossi's three, Schwarzenbach's four.[6] They differ also much in the shape of the distal end. Starlinger's has a very thin part near the end, which evidently is meant for entering a narrow cervix, but makes the instrument too dangerous. Tarnier's, Bossi's, Arthur Müller's and Gau's have the distal end flattened and bent outward so as to prevent the instruments from slipping. I think Bossi's instrument (1890) is most used, and the reports about its efficacy are quite favorable. In severe labor cases the cervix can be opened in from fifteen to twenty minutes[7] and in abortion cases sufficient dilatation is obtained in five or six minutes.

To instruments applies the same that I have said about manual dilatation. Lateral pressure, even if it is exercised only on a few points of the circumference at a time, is to be preferred to the pushing upward of large bodies in the direction of the cervical canal. By moving the rods of the expanding dilators around to different parts of the cervix we obtain an even dilatation and are less apt to tear the cervix and the parametria.

Finally, we have the method of cervical incisions. To make multiple small incisions in the circumference of the os is an old method that often has proved useful in overcoming rigidity of the cervix, but sometimes the incisions tear out.

Deep incisions, 2, 3 or 4 in number and dividing the whole vaginal portion out to the vault of the vagina, are perhaps also an old method[8] but the procedure has become more generally known through Dührssen of Berlin. In order to obtain the full intended length of the incisions, it is necessary to seize the cervix with two pairs of bullet forceps and cut between them.

The advantage of the method is that it affords space immediately, but it is only indicated when the cervix is obliterated and the os not sufficiently dilated. There may also come hemorrhage after delivery when the pressure exercised by the presenting part ceases; the danger of infection is increased, the incisions may not heal together, and in spite of their length, they may tear and extend into the perametrium. If these incisions are made at all, it is better to close them with sutures immediately after delivery, by which hemorrhage is arrested and linear union without cicatricial tissue is obtained. But this is in itself not easy. I think this method can hardly be recommended when compared with bloodless dilatation with hands or instruments. The deep incisions may save a child's life, but it exposes the mother to immediate danger and remote suffering.

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THE PANTHERAPIST AND NEOTHERAPEUTICS.

BY C. H. KERMOTT, M.D.,

OF FORT TOTTEN, N. D.

WE ARE living in an age of expansion and rapid progression. Expansion generally follows united efforts. By the union of States the United States of America has become the greatest nation upon the face of the globe. By the union of nations every separate nation is compelled to respect its own people and to punish them, when it is deserved by them.

A union of the different classes of therapists which we have in the State of North Dakota, would bring about a much more satisfactory condition of affairs than that which exists at present.

We do not doubt that all classes of physicians in this State are doing the best they can, and that there is perfect honesty in their intents. Each class, so far, is trying to run in the particular groove in which it has been educated. When these classes met with those not of their ideas there is frequently a clash, and, as in a hurdle race, each tries to throw obstacles in the way of the other; invariably one, but generally both are injured.

The Pantherapist.—The Pantherapists ($\pi\alpha\nu$, all, and $\theta\varepsilon\rho\alpha\pi\varepsilon\upsilon\omega$ I care for), as the name implies, are those who in their care for all are ready and anxious to draw their information from any and every source that is conducive to lessen the cause of disease, restore the health of the afflicted, and assist all who come under their care to be hale, hearty and happy. Any class of men who exert themselves to this end is deserving our sympathy, support and cooperation. They who would help others and make them happy should themselves possess healthy bodies, cheerful countenances, and give hearty greetings, laugh and be happy.

Among physicians none antedate the allopathists or regular physicians. They have spared no expense in obtaining their education, nor placed any limit to their researches or modes of treatment. They have investigated man, his mechanism, composition, constitution, and differentiation in every manner imaginable, both physically and mentally. They have examined the kingdom of Nature, if not thoroughly, yet more thoroughly than any other class of physicians, in order that they might have all that could be obtained to prolong life and procure health and

happiness. When we consider our extensive research and labor, can we not claim the name pantherapist? We are so in practice; why not in name?

Other classes of physicians have not been idle. The homeopathists, although their system at first appearance is diametrically in antagonism to ours, have brought to light much useful information. They have had success in pedriatics, and many a living mother and father are untiring in their praise of the homeopathist for having restored their children to health when others have given them up to die.

The osteopathists also command our attention in restoring to health those whom many physicians thought and pronounced incurable; by their system, it is claimed, a better circulation of the vital fluids is produced.

There are others whose aim it is to cure disease, and whom we believe to be honest in their convictions, as the eclectic, the electrotherapist, the heliotherapist, the hydropathists, and others.

In fact, I believe it is our duty to honor and respect those who teach openly that which they believe, but I have no faith in those who practise their arts (if they have any) in secrecy.

As an individual I must protest against what is termed "Christian science" and "faith cure" as an outrage upon civilization, as a farce played to delude the ignorant, and as a cause of many an untimely death from neglect of proper treatment. Christianity and faith I believe are both necessary for our eternal happiness and for our spiritual existence; for our physical existence physical remedies are wanted, and these the Almighty has lavishly provided for us to take advantage of. The Christian scientists and faith curists are the only ones so far as I am personally concerned, whom I would not be willing to have enter the pantherapic ranks.

Should such a union of earnest, honest physicians take place, though holding different opinions, the result would be in many respect advantageous, because (1) a better acquaintance with one another would be established, and this would promote an interchange of ideas, and (2) in union there is strength.

Then let us measure idea either with or against idea. Though we who contend may each die with our individual ideas, yet those who examine that which we have said or written will be able to select the truth, or approximate it. Truth will stand the jar of all opposition and they who will hold it need not be backward in speaking or writing it.

Let the regular physicians organize and invite all who are honestly practising the healing arts to unite with them, the only demands to be made upon the members to be fee sufficient to cover necessary expenses and to comply with the rules of the order. After a set time, and when we are acknowledged as a body of regular practitioners by the legislature, let none enter our ranks without an examination by a board of at least six members and a president. Let the motto of our order be. "Prove all things. Hold fast that which is true."

Then, were it left to my choice, I would require answers on the following subjects from those who desired to unite with us: Human anatomy, morbid anatomy, regional anatomy, chemistry, physiology, histology, toxicology, obstetrics, description of diseases, classification of diseases, diagnosis of diseases, minor surgery, and at least twelve of the most important medicines selected by the board from some first-class materia medica, as approved by them.

It is better to have few tools and know how to use them than a great many and not understand their uses.

The course of examination would probably be enlarged by questions added from works that the allopaths have never handled, but let no questions be propounded, unless either text-books can be procured on the subjects or printed lectures may be had. This will call for neotherapeutics.

Neotherapeutics.

Neotherapeutics (νεος, new, and θεραπευταχη care) does not necessarily change the *modus operandi* in the treatment of diseases in which drugs only are used, but in using other treatments the change is marked. Very often two or more modes of treatment are so combined as to restore the patient to health in a few days and also to afford a pleasure to the invalid during his illness.

A great revision in medical remedies should be considered. We have, in fact, so many medicines to think of that we become sometimes almost lost when the time comes for selecting something for a particular case. Not the question, "What is good"? but, "Which is best"? Many of our medicines, too, should become obsolete, or kept only as a curiosity for the medical antiquarian. Others which have been dropped should be brought into prominence, as bole armenia, which by its peristallic action on the intestines, triturated with quinine, might be classified with the specifics in the cure of typhoid fever. No cathartics are needed.

Dakota is young, only entering upon her years of manhood, and her young physicians have sprung from as noble stock as Eastern States ever possessed, and with expanding talents have as good a right to form a broader platform than ever yet was formed and enter thereon as any had in past ages. Organize. Discard the doubtful medicines. Select those thoroughly tried and approved. Let us profit by the experiences of others, and remember your remedial agents should be as varied as your patients are. What would you think of a man who would attempt to repair a watch with such a set of tools as they repair locomotives with? And what do you think of men who attempt to repair the health of strong and vigorous men, when temporarily ill, with the same remedial agents with which you would attempt to restore the health of babes?

Let prejudice no longer fill our minds to cause us to think that we are the lords of creation, and

that "when we perish wisdom will perish with us." Others may be as wise perhaps wiser than we are, but their wisdom runs in another channel than ours. If we receive from them that which they have and impart to them that which we have, both will be benefited.

Variety is one of Nature's laws. Think of the variety of esculent plants that grow in one garden, or on one continent or in the world, all used for food, each having its peculiar habits and each adapted to the people with whom it is found. Each when eaten has its peculiar effects on the human system, when properly selected, masticated and digested, each particle helping to repair the waste of the body, and in turn improperly used these very foods produce pain, sickness, and finally death.

The physician, then, ought to be an instructor and teach the healthy to remain as they are and the sickly how to live. When proper food will restore health, do not resort to medicine. When a sound mind is required, give proper mental food or rest of mind, as may be necessary; these failing call in a specialist.

I think it was Cowper who wrote, "Lands separated by a narrow frith abhor each other, and mountains make enemies of nations." The railroads and steamboats have done away with Cowper's times. May not also *mental railroads* and newspaper navigation do away with the opposition that has existed among physicians and lay a broader platform than ever yet has been laid? All are needed who can render help in the cure of those who are diseased, either mentally or physically. May we not call that platform pantherapism?

"What are you going to do with the allopathists," says one, "dispense with him?" Not by any means. If the different therapies have severally saved lives by the hundreds, allopathy has saved its thousands. And the allopathist who can show himself skilled in his profession should be a specialist and entitled to special fees. Write iatropist (ιατρος) after his name. Give honor to whom honor is due and let each class have its own specialists. All specialists, then, should rise from the platform of pantherapism. On this platform each man has an opportunity of becoming broad-gauged, so when he rises above this stage to special work and needs assistance he will better know what other specialist or specialists to call to his aid. The young pantherapist should have resort to but few medicines, but necessarily twelve and not exceeding twenty-five. This number will not require much time to master, and should not be considered burdensome to the osteopathic, the electrotherapist, the hydropathist, the hysteropathist, or any other specialist or practitioner who may at times require them, and in the hour of danger he will be enabled to make a judicious decision.

Learn from the little sapling which expands its roots in every direction, some running deeply into the earth for water and minerals, others through the sands and alluvial deposits, drawing nourishments from the various foods that Mother Earth keeps in her cupboard, receiving just enough and no more than is necessary to satisfy its requirements, growing day by day, spreading its numerous branches, gladdening the hearts of men, and continues to grow until it stands proudly as high as the tallest trees around it, and finally may tower even above its fellows on account of its nutritious diet.

Let the young physician draw sustenance from every branch of the healing art, so that by reason, comparison and experience with the wholesome diet he has received from every source, whether from the mental, moral or physical world, those who come under his care may know and feel that the sources from which he has drawn his knowledge are not shallow, but deep.

A CASE OF DOUBLE PENIS, COMBINED WITH EXSTROPHY OF THE BLADDER AND SHOWING FOUR URETERAL ORIFICES.[1]

BY CARL BECK, M.D.,
OF NEW YORK.

THE case which I present is unique. There are only two cases of double penis on record—one by Velpeau[2] and William Acton[3] and the other by Küttner.[4]

In Velpeau's case a child of six months had two well-developed penes. There was also a supernumerary leg. The urine was discharged synchronously from both urethræ. Velpeau assumed that there was only one bladder.

Küttner describes a specimen taken from a newborn child which showed two scrota, each of

FIG. 1.

them containing one testicle. The two penes were well developed. There was one bladder from which originated the urethral channel, surrounded by a normal prostate. There were also normal seminal vesicles. Just in front of the prostate the bifurcation began.

In my case not only are two well-developed penes present, but there are also four ureters, which can be examined the more easily because there is a complete exstrophy of the bladder

[1] Presented before the Surgical Section of the Academy of Medicine.
[2] Journal des Connaissances Medico-Chirurgicales, XIV., 39.
[3] Medico-Chirurgical Transactions, London, 1848, 103.
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(Fig. 1). The child is five weeks old and was born of poorly nourished parents who emigrated from Russia three years ago. There is another child two years of age. The baby shows no other abnormality; it is small, but fairly well-nourished; it is breast-fed.

Upon examination two ureteral orifices are seen at the lower margin of the everted bladder-wall, directly above the symphysis and slightly to the left. They protrude considerably. Each one resembles, in shape as well as in color, a small vaccination pustule, the light color contrasting with

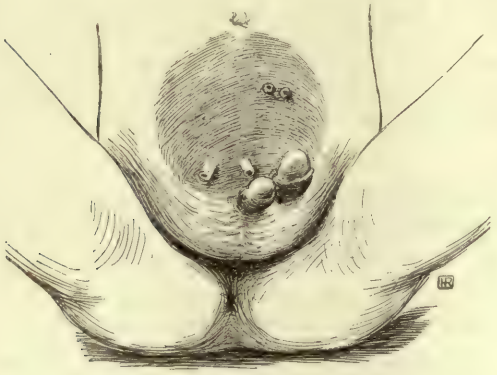

FIG. 2.

the dark-red mucous membrane of the bladder. The distance between the bases of the two urethral projections is three-fourths of a centimeter. Two small protrusions resembling them are found at the upper third of the exstrophied surface on the right near the upper border of the mucous membrane (Fig. 2). They project somewhat less than the other two and their orifices are a little smaller. The distance between them is ½ centimeter.

Both lower ureters discharge urine in the manner usually observed in exstrophy of the bladder.

FIG. 3.

Once in a while, especially when the child cries, a stream of urine about ten centimeters long is discharged from the ureters. The left ureteral orifice is a little wider than the right one, and apparently the stream from it is larger than that from the other. On introducing a probe into each of the lower ureters the impression of the presence of a small receptacle is given. A thin flexible probe cannot be introduced further than three centimeters.

The upper ureters functionate differently. A probe can be introduced into both to a depth of a little more than one centimeter. Urine has not been detected at the median orifice, but once in a while a drop issues from the external one. The trigonum Lieutaudii is pronounced neither at the upper nor at the lower urethral region.

At the inner surface of the symphysis, partially covered by the protruding bladder-membrane as well as by the scrotal folds, are two well-developed penes, placed side by side. It is only after pulling the latter downward and the mucous membrane upward that they both appear conspicuously (Fig. 3). They are of different sizes. The larger one has greater dimensions than could normally be expected in proportion to the age and size of the child. The direction of the basal insertions is toward the left, as if they would merge into left Poupart's ligament. The length of the larger penis is three centimeters from its symphyseal base to the top of the glans; that of the smaller one is only two.

The glans of each penis is very well developed; there are no adhesions of the membrane to the surface of the glans. The urethral orifices are normal within the extent of the glans. A probe can be introduced a distance of one centimeter into the larger and three-fourths of a centimeter into the smaller penis.

That both penes contain erectile tissue became evident from the well-marked erection which was observed shortly after the operation for exstrophy of the bladder. The bases of both penes show a cartilaginous consistence and give the impression that a bulbus is present. The relations to the rectum appear to be normal. Whether the prostatic gland and seminal vesicles are also present, I am not yet able to determine.

A skiagraphic examination showed a considerable gap in the symphysis. There is a very large scrotum divided by a well-marked raphe. Between the two penes is a large groove which creates the appearance of a second sac. A further report of the case will be made after operation.

A CASE OF CONGENITAL ABSENCE OF INTERNAL GENITALS; FUSION OF KIDNEYS; SINGLE URETER.[1]

BY ALLEN J. SMITH, M.D.,

AND

WILLIAM GAMMON, M.D.,

OF GALVESTON, TEX.

THE specimen to be described (No. 42, Pathological Museum, University of Texas) was obtained from the body of an American-born girl, M., daughter of Italian parents, dead at the age of sixteen years from an attack of tetanus. She was brought into the surgical wards of Sealy Hospital under the care of Prof. James E. Thompson, Nov. 22, 1894, and died fifteen days after admission. After death autopsy was not permitted

[1] From the Pathological Laboratory, University of Texas, 1901, No. 4.

by the parents; but the absence of the vagina having been discovered while catheterizing the patient by one of the writers (W. G.,) at the time house surgeon in the hospital, a postmortem perineal operation was performed and the specimens obtained in this way. In the haste and difficulty of manipulation the ureter was cut and exact examination of the pelvic cavity and renal region impossible; but, in the brief investigation afforded, no structures of ovarian, uterine, liga-

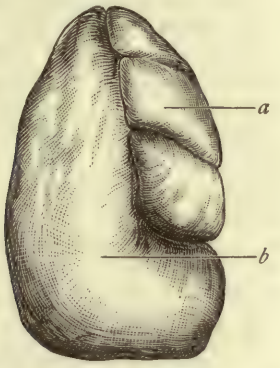

FIG. 1. Fused Kidneys, ventral view; *a*, smaller, probably left, organ; *b*, larger, probably right, organ.

mentous or tubal nature could be detected, and no cord-like structures could be seen or felt to represent these parts, and it is believed that nothing of the sort existed.

The condition of affairs is fairly represented in the accompanying diagrams. There was but one kidney mass (Fig. 1, anterior aspect of kidney; Fig. 2, posterior aspect of same, showing pelvis and beginning of ureter and renal vessels), occupying the position of the right organ. This

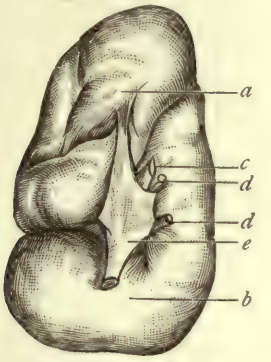

FIG. 2. Fused kidneys, dorsal view; *a*, smaller organ; *b*, larger organ; *c*, renal view; *d*, renal arteries; *e*, pelvis serving for both of the fused kidneys, provided with single ureter.

organ weighed a trifle over two hundred grams; measured 12 cm. in greatest length, 7.5 cm. in width, and 5 cm. in thickness at thickest part. From the size and shape one is led to regard this mass as the result of fusion of the two organs (fusion of right and left metanephra). In Fig. 1 and Fig. 2 the portion marked *a* corresponds with what should have been the left kidney; that marked *b* with the true right kidney; the letters *c*, *d*, and *e* in Fig. 2 marking respectively the renal vein, renal artery and pelvis of the kidney. Careful search through the perineal opening was made for a possible kidney upon the opposite side, but none could be detected and but a single ureter could be found, the bladder showing no trace internally or externally of other ureter than the right one, which opened in the usual situation. This ureter was in every way normal in appearance; at its superior end it opened into the pelvis of the fused kidney as indicated in Fig. 2. The pelvis included two major cavities, a superficial one from which the ureter arises (into which two papillæ of the superior portion of the kidney, *a*, opened), and a deeper part extending between the two portions of the kidney mass (into which all other papillæ of both parts of the fused organs projected); the latter pocket communicated with the first by two openings, each about 3 mm. in diameter.

The external genitals (Fig. 3), while perhaps

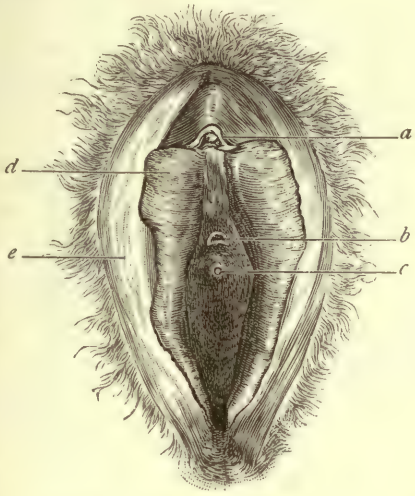

FIG. 3. External genitals; *a*, clitoris; *b*, meatus; *c*, opening of rudimentary vagina; *d*, labium minus; *e*, labium majus.

smaller than might have been expected, were of perfect conformation, and the usual pudendal hairs were present in appropriate number. On separation of the labia (Fig. 3, *d*, labium minus; *e*, labium majus), however, while a clitoris (Fig. 3, *a*; Fig. 4, *d*) of normal size and position and a normally situated meatus (Fig. 3, *b*, Fig. 4, *c*), of usual appearance are seen, the vulva appeared merely as a shallow pocket (Fig. 3, *f*; Fig. 4, *g*), measuring from anterior to posterior commissure eight centimeters, with a greatest depth from the convex surface of the labium minus of one centimeter, this depth being attained in the posterior third of the *cul-de-sac*. In the wall of this vulvar pocket, immediately back of the meatus urinarius, there was a small papilla into which extended a tiny tube, admitting a small pocket-case probe to a distance slightly less than one centimeter and ending blindly in the fibrous structures surrounding the urethra. (Fig. 3, *c*; Fig. 4, *h*). This tube is

the representative of the vaginal canal. Upon removal of the specimen the posterior wall of the bladder and the anterior wall of the rectum were found closely approximated, the intervening space extending down to the perineum being occupied by loose fibrous and adipose structures, and there could be found nothing in the least suggesting rudiments of uterus, tubes, broad ligaments or ovaries. The base of the bladder and the urethra (the latter measuring two centimeters in length) were surrounded by a somewhat increased amount of dense fibrous tissue, in the midst of which the rudimentary vagina terminated blindly; and while no microscopic examination of this tissue was made, careful dissection did not reveal trace of any structure suggestive of the missing parts.

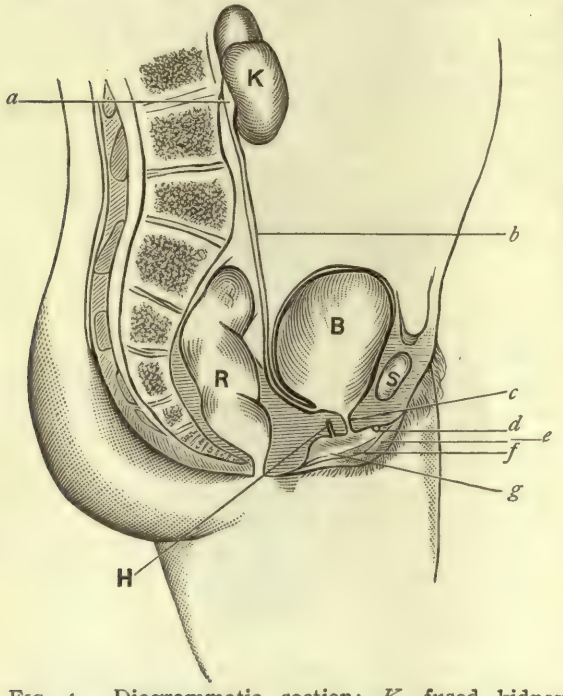

FIG. 4. Diagrammatic section; *K*, fused kidney (occupying situation of right kidney); *R*, rectum; *B*, bladder; *S*, symphysis pubis; *H*, rudimentary vagina; *a*, pelvis of kidney; *b*, ureter; *c*, urethra; *d*, clitoris; *e*, labium majus; *f*, labium minus; *g*, pocket of vestibulum of vagina (vulva).

It is not impossible that some ovarian rudiments in the pelvis or higher up near their place of origin in the lumbar region might have been found had it been possible to dissect the body with the usual freedom of a postmortem examination; but careful search was made by palpation through the perineal opening without avail, and the writers believe that none existed.

As far as could be determined no knowledge of the existence of this abnormality was possessed by the girl or her friends. She had always maintained fair health, but had never menstruated; nothing suggestive of vicarious menstruation could be learned after her death. The body presented the usual feminine configuration, and the mammary glands and mons veneris were amply developed. Private information stated that the girl had frequently indulged in some type of intercourse with males, and that she was of passionate nature. How coition could have been satisfactorily accomplished is difficult to understand; and why the malformation was not at such times detected is likewise a problem. Possibly it was known secretly, but no information could be obtained upon this line.

It is unfortunate that a closer examination was not permitted with a view of possibly determining some factor in the cause of the malformation. One may surmise that perhaps an inflammatory process in the upper abdominal area, corresponding with the anterior parts of the Wolffian bodies, existed in early embryonic life, destroying the pronepheron and mesonephron of each side, and causing the formation of adhesive bonds between the metanephra resulting in the eventual fusion of the kidneys. How to account for the utter absence of the ureter on the left side by such a supposition is difficult to understand; yet it is not beyond the bounds of conjecture that such inflammatory change could have caused sufficient alteration in the left metanephron to prevent the growth of the Wolffian duct, and yet not entirely destroy the essential structure of the former and its chance of partial development. The small size of the upper part of the renal mass, which the writers regard as representing the left kidney, would suggest that such partial involvement of the primitive kidney is not impossible. An investigation of the relation of surrounding structures to the renal mass, of the position of the abdominal vessels and their conformation, and of the bowel wall, for a possible remnant of this left Wolffian duct might have thrown further light upon the subject.

The attack of tetanus from which the subject died was believed to be due to infection of an ulcer of the leg. The course of the case was peculiar in that after some days in the hospital under the usual treatment of chloral and the bromides, the tetanic symptoms disappeared, but the patient's general condition did not improve and several weeks after entrance she died from exhaustion. Probably dependent upon the infection, and also probably a factor in the death of the girl, should be mentioned a moderate degree of cloudy swelling of the kidney, apparent both grossly and microscopically in the specimen described.

A FEW REMARKS ON A GENERALLY UNRECOGNIZED EAR DISEASE (OTITIS MEDIA MUCOSA.)[1]

BY HENRY A. ALDERTON, M.D.,
OF BROOKLYN, NEW YORK.

DURING the winter 1900-01, because of the great prevalence of grippal and ordinary colds, the writer's attention was repeatedly drawn to the unusual frequency of exudative, non-perforative otitis media. The past year, in his experience,

[1] Read before the Am. Lar., Rhin. and Otol. Soc., N. Y., May 24, 1901.

because of the increased virulence of the causative nasopharyngeal inflammations, the type has inclined more to the mucous than to the serous form of exudative inflammation. And, for this reason, its recognition has been attended at times with much greater difficulty. Unlike the serous exudative inflammation, *otitis media serosa*, the mucous form appears to occur relatively more frequently in adults.

Following a severe cold, grippal or otherwise, the patient begins to have trouble with one or both ears. Possibly this may take the form of an evanescent earache, which yields quickly to the ordinary or extraordinary home remedies; in other cases no pain at all is noticed. Tenderness to touch of the parts around the auricle is more common and frequently recurs during the early part of the disease. In a day or so, whether there has been earache or not, hardness of hearing makes itself manifest, together with a feeling of stuffiness in the ear, as though the external canal were plugged, and a feeling of fulness, both in the ear and over one or both sides of the head, according as the affection involves one or both ears. Frequently there is present an intense tinnitus, which is either hissing or pulsating; often the tinnitus is likened to escaping steam. There is usually no sensation of throbbing, such as exists so often in an acute purulent otitis media. Because of the stuffiness and full feeling in the head, cerebration is difficult and concentration is a lost art. Autophony is usually noticed. Cracking sounds on blowing the nose or swallowing are not so frequently observed as in the serous condition, probably because of the greater degree of tubal obstruction. The patient is unhappy, fearful for the future and, because of his infirmity, unable to attend to his business. The hearing becomes so badly involved that the watch is heard not at all or only close to the ear and conversation is indulged in only at the cost of considerable exertion on the part of the patient's family and friends.

If the exudation is formed rapidly and in considerable quantity, mild vertiginous attacks may occur. These attacks are not severe and mostly consist of a dizzy feeling, sometimes occurring on changing the bodily position. There is none of the other phenomena associated with Ménière's symptom-complex.

Because of the patient's anxiety for relief, he usually calls upon the aurist during the first week of the disease. On examination, after the removal of whatever detritus maceration and home remedies have evolved in the external ear canal, one finds that the osseous canal wall, unless irritated by overtreatment, has very little congestion and there is no swelling. There may be slight tenderness over the tragus or over the position of the Eustachian tube in the neck. The tympanic membrane is seemingly in about its usual position, neither retracted nor bulged to any appreciable extent. As a whole it may be pushed out a little more than normal toward the canal. The luster is gone, the surface has a dull gray, leaden appearance. Surrounding this dull gray field is a ring of congestion and coursing across the field are a number of separate capillary, twigs beginning at the periphery and disappearing towards the *umbo*. Along the hammer handle the malleal plexus is unusually pronounced. This hyperemia does not resemble, except remotely, that of a beginning purulent otitis media; it is dull and grayish red, not brilliant and distinct as in the latter affection. Schrapnell's membrane does not seem to be markedly affected. There is absolutely no fluid line discernable, nor can the presence of fluid be made out by any difference in the appearance of the various sections of the drum membrane.

Functionally, the ear is apparently very gravely involved. The watch is not heard or only on contact or very close to the ear. The whisper is heard for a very short distance, but the hearing for the spoken voice is relatively somewhat better. Bone conduction, for the Hartmann series of tuning-forks, is normal or better. The lower tone limit is impaired, even up to the C fork (128 d.v.s.), in certain cases. The upper tone limit is apparently very little, if at all affected. The intensity Rinné test shows as negative (that is, initial BC is heard better than initial AC), in marked cases as high up on the scale as the C^8 fork; rarely, the C^4 fork may give an equal reaction. The duration Rinné is likewise negative for the lower forks. In a unilateral affection, Weber's test is positive.

Examination of the nasopharyngeal cavities shows an active or retrogressing inflammatory process. The pulse and temperature are practically normal. Such a condition may endure, in various degrees, for from only a week or two up to a matter of years; in one of the writer's patients the condition had never entirely disappeared for about nine years. During exacerbations of the trouble the symptoms are as already detailed; with the subsidence of the congestive period the radiating vessels disappear, the drum membrane becomes uniformly a dull gray and remains thick and opaque, and the functional ability is slightly improved.

Change in the position of the patient's head does not induce the improvement in the hearing which is sometimes noticeable in cases of otitis media serosa. Inflation of the tympanum improves the hearing, though only temporarily, and never to the degree usually seen in the serous process. During the process of inflation mucous crackles can usually be heard with the otoscope.

Incision of the tympanic membrane alone sometimes gives exit to no secretion or to only a little teat-shaped projection, hardly visible through the hemorrhage from the cut edges. The drum membrane is often so thick and fibrous that considerable force is necessarily exerted in order to penetrate into the tympanum. But on forcible inflation the picture is changed. Then there appears in the canal a quantity of stringy, tenaceous mucus which follows the cotton on the applicator on its withdrawal from the canal as a long, fila-

mentous string, for a distance of a number of inches from the external auditory orifice before it finally consents to part company. Often, in order to evacuate the drum cavity, it is necessary to inflate forcibly and repeatedly, assisting the extrusion of the mucus with the cotton applicator or with suction. After the removal of the exudate the hearing is immediately greatly improved and remains so until the incision heals and more mucus is formed.

Douching alone through the external canal has never seemed to do other than harm, in the writer's experience. Periodical inflation, combined with treatment of the nasopharyngeal condition, will in a certain proportion of cases bring about a slow recovery, but often the patient is not willing to await the results of so slow a process and gravitates from one to another practitioner, the true condition frequently being unrecognized, until permanent impairment of the function of the ear results from the inspissation of the exudate or the formation of adhesions or the deposition of connective tissue in the mucous membrane of the tympanum by reason of the prolonged hyperemia.

Certain systemic remedies seem to be of benefit; such, for example, as the iodide of potash in increasing doses. But the treatment *par excellence* consists of incision and evacuation of the tympanum, repeated if necessary and always accompanied by regular politzerization and conscientious treatment of the nasopharyngeal condition. The relief is immediate and, while subject to temporary setbacks, permanent for the current attack. Before incision the external auditory canal should be made as nearly aseptic as possible by syringing with a tincture of green-soap solution, following this with instillation of absolute alcohol and then by syringing with a 1-2000 bichloride solution. The canal is then packed with aseptic gauze and the patient sent back to the waiting-room for half an hour to await the subsidence of the increased hyperemia necessarily induced by these procedures. The patient is then subjected to a thorough cleansing of his nasopharyngeal cavities. The gauze packing is removed and under good illumination a thorough incision is made with a sterilized knife along the inferior segment of the drum membrane just internal to its attachment to the *annulus*. The ear is inflated and the mucus removed by means of sterile cotton pledgets. Finally, the canal is again packed with aseptic gauze, covered outside by a cotton pad kept in place by adhesive plaster. A mild astringent application of a solution of silver nitrate or glycerite of tannic acid or the stronger glycerite of tannic and carbolic acids is applied to the postnasal mucous membrane.

The patient must be seen in from twelve to twenty-four hours and the ear again gently inflated and the gauze packing renewed. After this, a treatment once in every two or three days is all that is usually necessary. Often the drum membrane may have healed by the first dressing.

Should the exudate persist in reforming, a solution of nitrate of silver, ½ to 1 grain to the ounce of boiled distilled water, acts favorably, both injected into the Eustachian tube and instilled into the tympanum through the incision. The writer has never seen undue reaction follow this procedure, if the previous steps have been faithfully carried out.

142 Clinton Street.

THE LOCAL TREATMENT OF GONORRHEA.[1]

BY E. O. BARDWELL, A.M., M.D.,
OF EMPORIUM, PA.

ONE of the most disagreeable diseases, one of the most unsatisfactory and annoying complaints that the general practitioner is called upon to prescribe for, is gonorrhea in the male. It is a disagreeable disease *per se*. It is often quite difficult to secure a satisfactory result in a reasonable time with ordinary remedies, even when directions are carefully followed, and it is almost invariably impossible to exercise such supervision over a case as to be at all certain that directions are followed with any care whatever.

When a case is cured in two or three weeks the physician receives no particular credit, as it is supposed to be no more than any physician can do, if he wants to. When, however, the thing runs along for several weeks, as it mostly does, then the curses hurled at the devoted doctor's head are many, loud, and deep.

During an active practice of twenty-two years I have seen a large number of cases of gonorrhea and have witnessed quite a good many attempts to cut the disease short in its incipiency by the use of strong injections. I do not know that I have ever seen a clear-cut success when the case was beyond doubt a genuine gonorrhea. I do know, however, that I have seen quite a number of horrible failures. One in particular, which always occurs to me when on this subject, was that of a young married man, who, when the indubitable proof of his moral obliquity stared him in the face, followed the advice of a friend and passed a solid stick of lunar caustic into his penis. He withdrew it at once, of course, and the evening of the same day he came to me with his penis about three times its normal size. It may be set down, in my opinion, that the aborting of cases of "clap" by the use of strong injections is uncertain, unsatisfactory, and dangerous, and ought never to be attempted, at any rate in a first attack, and in a mild case using injections or irrigations of more than an ordinary strength can do no good and is very likely to be productive of injurious results.

For twenty years copaiba and oil of sandalwood, separately, or in combination, have seemed to me to have a good effect in the first stage of gonorrhea. In many cases, however, the good effect proved only transitory. The copaiba very often nauseates and sometimes cannot be tolerated at all. In these cases spirits of turpentine, two

[1] Read before the Elk County Medical Society, Ridgway, Pa.

or three drops in combination with cubebs in an emulsion, taken largely diluted has seemed to have a beneficial action. Sandal-wood oil often causes severe pains in the lumbar region and probably at least ninety-nine times in a hundred these remedies alone do not cure genuine gonorrhea, and local remedies must in the end be resorted to. Turpentine, copaiba, and cubebs are entirely too stimulating and irritating, both locally and generally, to be passed into the stomach and blood and strained through the kidneys for the relief of a local lesion situated from one to two inches back of the glans penis, unless the indications for such use are clear, unmistakable, and practically mandatory.

From this point of view all internal specific medication in gonorrhea should be abandoned. These remedies do benefit the local lesion when given in sufficiently large doses; there can be no doubt about that, but when so given they almost invariably derange the stomach and weaken the kidneys, and the undue stimulation of any normal organ is always to be deplored. I have seen many cases in which the digestive disorders and the irritability of the kidneys have continued for years after the ingestion of these drugs had been stopped, and even though there were no other way to cure gonorrhea it has often seemed to me that the administration of these drugs was a doubtful service to the patient. There appears to be, however, in nearly all cases, an undue acidity and concentration of urine that requires the use of a mild, bland, unirritating diuretic, especially in the first stages of the disease, and for this purpose ten or fifteen grains of citrate of potash, either alone or combined with hyoscyamus, will usually be found to answer every purpose. Of course, lithia or sodium may be used in lieu of the potassium if preferred.

I do not know if this condition is due to financial prosperity, the Spanish War, or to commercial expansion; but I do know that I have seen an unusually large number of cases of gonorrhea during the past year, and some of my confrères have also noticed the increased number of these cases prevailing during the year 1900.

In May, 1900, I commenced using protargol as an injection in gonorrhea and since then my results have been more satisfactory than before. It has proved most satisfactory to me in a solution of two grains to the ounce of water, and in this strength I have in many cases begun using the injections the first day of the disease. In two cases which were primary and unusually severe, I gave citrate of lithia internally and morphine by injection into the urethra, for thirty-six hours before commencing the protargal.

The old injections, tannin, silver nitrate, copper, lead, zinc, and hydrastis, I had pretty nearly abandoned several years before, and had used permanganate of potassium with more or less varying success; but I must say that protargol seems to me to be the ideal injection, and in the few cases in which it has not given good results I have found an error in administration. I have used protargol by injection in preference to irrigation, not only because the results appear to be better, but also for the reason that the injection method is much more convenient and the patient is very much more certain to use the treatment thoroughly, and as for the method by irrigation there are many cases that are so situated as not to be able to come regularly to a physician's office, and I have neither the time nor the inclination to give these patients my personal attention every time they need an irrigation.

A few case reports may prove of sufficient interest to justify their reading at this point.

Case I.—The patient came to me the day after he noticed a urethral discharge; he had been in the same predicament before, but professed to be greatly surprised. I prescribed a solution of protargol, one-half of one per cent., to be used three times a day in a proper syringe; patient reported in eight days with no apparent improvement. Strength of solution was then increased to one per cent. injected three times a day; reported again in six days, improvement very slight. I then learned that owing to the patient being an old hand at the business I had not sufficiently instructed him in the *modus operandi.* I directed him to immerse the bottle of solution in a basin partly filled with warm water a few minutes before each injection, or until the solution reached a temperature of from 100 to 110° F.; to urinate before injection; to fill the urethra with the solution and then compress the glans penis and retain the solution five minutes; wait a couple of minutes and then repeat the process; to take this double injection three times a day and report again in five days. He did so, reporting at the end of five days that the discharge had nearly ceased, and he was entirely well three days later.

I find that when patients have previously used injections for gonorrhea it is almost invariably necessary to insist quite strongly on the importance of using the solution freely and of retaining it a sufficient length of time. They have been accustomed to using solutions that bite and they are afraid of anything in the shape of an injection.

Case II.—This patient consulted me about four weeks after the discharge commenced; had been taking one of the old-style sandal-wood mixtures—in fact, an old one of mine that a friend had kindly loaned him—but he denied having used any injection; he was suffering from a severe attack of well-developed orchitis in addition to the urethral discharge which had to some extent subsided. I had him put to bed at once, the testicles properly supported, hot fomentations applied, and ordered an injection of a solution of protargol, one-half of one per cent. The discharge ceased in four days, although when the orchitis began to soften up, in about one week, the discharge again commenced and lasted three days longer, when it ceased entirely under the use of protargol and did not return as before.

Case III.—This patient was a married man who came with the access of the first symptom

and wanted the disorder throttled. I gave him a one-per-cent. solution of protargol to inject, warm, three times a day, two syringefuls each time and told him to report in a few days. He came back in four days and reported the discharge as rapidly diminishing, and in six days said it had ceased entirely. I advised him to continue the injections six days longer, one syringeful three times the first day, twice the second, third, and fourth days, and once at bedtime, the fifth and sixth days, then to immerse his testicles and penis in cold water every night before retiring for a week, and report again. He reported in a week and said there had been no re-appearance of the discharge and he felt sure that he was all right; however, he returned again in two days with a slight discharge, when I increased the strength of the solution to two per cent., one syringeful at bedtime and in the morning, which he used five days, the discharge stopping the second day. At the end of the five days he used the injection four days longer, and abstained from sexual intercourse another week, and has had no further trouble, neither has his wife shown any signs of infection and nine months have now passed.

Case IV.—Young man who expected to be married in a few weeks; first attack; discharge not yet in evidence, but soreness, swelling, redness, and frequent and painful micturition. Citrate of potassium in ten-grain doses, largely diluted, ordered every four hours internally, and a solution containing protargol, one-half of one per cent., and sulphate of morphine, one-fourth of one per cent., as an injection every four hours. After the fourth injection the morphine was left out entirely, and the case progressed very rapidly to a satisfactory termination. The discharge, which commenced soon after I first saw the patient, increased for two days, then subsided and stopped entirely on the sixth day. There was chordee the night after the morphine was discontinued, but it was easily managed.

Case V.—Ordinary typical case of gonorrhea; patient said that he was not surprised and that he deserved nothing less; said when he had had the same old thing previously it had usually taken about six months to get over it, and that he would appreciate my kindness if I would try to do a little better than that. I gave him lithia tablets, five grains each, to take one every four hours in a tumbler of cold water, and an injection of a one-grain solution of protargol to be used warm, three times a day, two syringefuls each time. There was a slight improvement at the end of one week, when the strength of the solution was increased to one and one-half per cent. for another week when the discharge stopped and did not return.

Case VI.—Similar to Case V., except that the discharge had already continued six weeks when I was first consulted. At the end of the first week the injection was raised to strength of two per cent., and at the end of the second week the discharge, having very materially diminished, it was continued at this strength for another week, when the discharge entirely ceased. The injection was then continued in a one-per-cent. solution three days, and then in half that strength for four days longer, when it was discontinued and no further trouble followed.

Case VII.—Essentially the same as the last two, except that I mistrusted that the patient did not refrain from intercourse as I had instructed him to do. The discharge in this case had been running three weeks when I first saw him. I commenced with a one-per-cent. solution of protargol, increased the second week to a two-per-cent., and at the end of the third week, the discharge not having entirely ceased, I prescribed permanganate of potassium, two grains to four ounces of water, and at the end of another week patient was discharged cured and has since remained so. I am not sure that he would have recovered just as rapidly had the protargol been continued instead of resorting to the permanganate of potassium.

I have only treated thirty cases of well-marked undoubted gonorrhea since I commenced the use of protargol, and, although I have finished up in three of these cases by using potassium permanganas, typical samples of the entire thirty cases are given above, and it will be seen that there is no evidence to show that the potassium was really of any assistance. I would probably not have resorted to it at all but for the fact that prior to the beginning of the use of protargol the potassium permanganas had been more favorably considered by me than any other local remedy I had used in gonorrhea up to that time.

Members of this Society who are personally acquainted with the writer will probably not be at all surprised at his failing to allude to the use of the microscope as an assistant in the diagnosis of gonorrhea. To others, however, it may not be amiss to state that I utterly fail to see the immense benefit that is said by some physicians to follow the use of the microscope in this disease. The great majority of physicians who treat gonorrhea could not tell a gonococcus from any other coccus in any event, and as affording sure evidence by which we may be able to protect the innocent party, where parties are married, I always protect the woman anyway so it makes no difference. In regard to the use of the microscope in diagnosis it is my opinion that a doctor who has been in practice twenty years and really requires a microscope to diagnose a case of clap has been in practice about twenty years too long.

In concluding this paper I wish to say that I believe that we have in protargol the very best local remedy yet produced for gonorrhea. The only cases in which it has failed in my hands to cure a case of gonorrhea in less than two weeks were cases in which there was an error in administration. I have found it is quite important that the solution be injected warm, and that it be used in large amount, an ordinary syringeful at each injection, and the injection made two times at a sitting, three times a day, the urethra being well distended, and the solution retained at least five

minutes. I have never seen any bad results from it in solutions as high as two per cent. and would not hesitate for a moment to use a five-per-cent. solution if I thought it necessary or advisable.

MEDICAL PROGRESS.

Purgatin.—Purgatin, the diacetate of anthrapurpium, according to H. VEITH, consists of a yellow, crystalline powder which is insoluble in water and nearly so in alcohol. This synthetic product causes mild purgation in twelve hours after 0.5-1.0 gram without concomitant pains or tenesmus. The patients are to be told of a yellow discoloration of the urine which is liable to set in. The tastelessness of the drug is a further advantage and it is especially recommended in chronic constipation and neurasthenia.

Experimental Ligation of Splenic Vessels.—Through extended animal experiments D. BALACESCU (*Münch. med. Woch.*, Aug. 27, 1901) finds that (1) ligation of all the vessels with the gastrosplenic ligament leads to generally fatal gangrene of the organ; animals may, however, withstand the intoxication,, when atrophy sets in after eight days; (2) ligation of the splenic artery or vein alone is usually stood well, since sufficient collateral circulation is maintained. The atrophy resulting is very slight and slow in developing, but more manifest if the vasa efferentia are narrowed.

Compression Therapy in Heart Disease.—Most clinical observers have noticed the manner in which patients suffering from heart disease instinctively seek relief from painful subjective symptoms by pressing the hand against the præcordium. Abée of Nauheim was the first to suggest the use of some form of apparatus to replace the temporary pressure of the hand by constant mechanical support. M. MENDELSOHN (*Berl. klin. Woch.*, Aug. 26, 1901) believes that the relief which such apparatus affords is not the result of any support or lifting of the heart, but depends upon compression of the chest wall. An amelioration of symptoms is obtained in cases presenting cardiac enlargement, with hypertrophy and dilatation of the left ventricle. In such cases the heart is in direct anatomical relation with the lateral as well as with the anterior chest-wall, and each movement of the heart is forcibly and directly communicated to these parts, producing a notable physical shock. Mendelsohn believes that the painful sensations experienced by the patients reside very largely in the hyperesthetic thoracic wall and not in the heart itself; hence the value of supporting the thorax in the cardiac region, and thus limiting the violent shaking of the parts. In addition, compression of the thorax, to a degree not inconsistent with freedom of respiration, is said to lessen excessive cardiac motion and to abolish disagreeable sensations dependent on such motion. A thorax-compressor has been devised by Dr. Graüpner of Nauheim. A plaster cast of the thorax is first prepared, and from this is cut the part which corresponds to the superficial cardiac area, overlapping this area by two or three finger-breadths at each margin. From this cast a metallic plate is prepared, and to the inner side of the plate a flat air-cushion, extending over the entire surface, is fastened. It is advisable to have attached to the air-cushion a rubber tube long enough to permit the patient to blow up the cushion when the latter is in place. The compressor is held in place by binders passing over the shoulders and across the back.

Trichinosis in the United States.—Although numerous epidemics and spontaneous cases of trichinosis have been recognized in the United States, the impression is still prevalent that it is an uncommon disease in this country. On account of the apparent lack of systematic research with respect to the frequency of the disease here, HERBERT U. WILLIAMS (*Jour. Med. Research*, July, 1901) has undertaken studies with regard to such occurrence. He examined 505 cadavers, death being caused by other diseases, and found trichinæ present in 27 or 5.34 per cent. He took samples from the muscles (sternocleidomastoid, psoas magnus, diaphragm and rectus abdominis). These specimens were usually about 3 centimeters long and 1 or 2 centimeters in thickness. These were immediately examined or preserved in cold storage or by a weak solution of formalin. They were then studied between plates of glass microscopically with the low power. All of the subjects were over 14 years of age. As all the subjects died of a disease other than trichinosis in every case the infection with the trichinæ must have occurred a considerable time previous to death. The infections were of various degrees of severity, sometimes being very extensive, while sometimes only a few worms were found. A large proportion of the cases were born and had always lived in the United States. An unusually high percentage occurred in insane patients. No eosinophilic cells were found about or near the encapsulated trichinæ. Most cells do not collect in or about the capsules in cases of old trichinosis. Newly formed elastic fibers and plasma cells sometimes are found in this location. The capsule may be invaded by new cells, the worms disintegrate and the capsule become filled with fibrous and adipose tissue. It is evident that many cases of old trichinosis escape detection at autopsies.

When to Operate on Gall-Stones for Radical Cure.—Leaving out of consideration the palliation of malignant or otherwise hopeless disease by the removal of pain-causing gall-stones, M. H. RICHARDSON (*Boston Med. Surg. Jour.*, Sept. 5, 1901) maintains that gall-stones should be removed at the earliest favorable moment after diagnosis, unless there are contra-indications in other viscera or in the patient's general condition. The "earliest favorable moment" is that period of time when there is no infection of the gall-bladder to contaminate the field, no impaction in the common duct to increase the dangers of

dissection and no jaundice to induce hemorrhage or to impair the patient's power of recovery. In favor of this author's proposition it may be said that (1) the operation as a rule is easy and safe; (2) the remote dangers of gall-stones are lessened or avoided; (3) if the diagnosis of gall-stones proves to be wrong, other lesions may be discovered and remedied—lesions perhaps even more serious than gall-stones; (4) late operations on gall-stones are as a rule difficult and dangerous. Operations made imperative by progressive and lethal symptoms must be performed under great disadvantages and dangers; the gall-stones generally are more inaccessible, the dissections deeper, and the patient's power of resistance lessened. While the possibility of spontaneous cure is not denied, Richardson believes that such cure, whether or not it is aided by medicinal treatment, is clumsy, dangerous, ineffectual and contrary to common sense. Once gall-stones begin to offend, there is no way of telling how the process will end; the chances are it will result in disability or death.

Bacteriology of Erysipelas.—The Bacteriological investigations of B. JORDAN (*Münch. med. Woch.*, Aug. 27, 1901) confirm the view that erysipelas is not a specific disease caused by a special bacillus, for experimentally staphylococci, pneumococci and colon bacilli have been found as cause in rabbits. In man the coccus generally found is the streptococcus pyogenes, but there are also undoubted cases where the staphylococcus aureus was the incitor. The question as to whether pneumococci, colon and typhoid bacilli are able to set up a true erysipelas in man must still be considered an open one. The author does not believe in drawing a sharp distinction between erysipelas and pseudo-erysipelas, but thinks that both are merely varying grades of severity of one and the same disease.

Bacteriolysis and Typhoid Immunity.—Typhoid fever is a self-limited disease and experience has shown that, except in certain organs of the body, such as the urinary and gall-bladders, the specific organisms disappear as convalescence approaches. The supposition therefore is that at this time the tissue cells and blood become more and more antagonistic to the bacilli and finally cause their destruction. However this may be inside the body, we know that it does not occur outside of it, for typhoid blood, from sick or convalescent patients, and bouillon make an excellent culture-medium for the bacilli. When, however, these are introduced intraperitoneally into a normal guinea-pig disintegration or "Pfeiffer's phenomenon" occurs. M. W. RICHARDSON (*Jour. Med. Research*, July, 1901) has studied this subject by the experimental observation of the combined effect upon the typhoid bacillus of typhoid blood which contains a specific immunizing element and normal serum which contains a non-specific normal ferment and shows that when they are properly combined they cause a destruction of the bacillus. In typhoid fever Nature produces a cure by the proper combination of these substances which are produced by the body-cells, especially those of the lymphatic apparatus. It is the function of the immune element to bind the non-specific element to the bacterial cell and thus cause its destruction. In the earlier stages of the disease the immune element may be abundantly present and yet be of little value because of the absence of the non-specific element or compliment. In the stage of falling temperature this compliment returns to the blood and a corresponding destruction of the bacilli takes place which sets free the typhoid toxin contained in the bacterial cells and possibly causes the remissions in temperature seen clinically during the fourth week. Inasmuch as the addition of normal serum to the inactive serum of typhoid patients will in most cases make it similar to that present in the fourth week we are justified theoretically in so treating typhoid fever. The immune element might, however, also be lacking in which case it would have to be supplied. This could be ascertained by proper investigation.

Surgery of the Diaphragm.—Two cases of incised wound of the diaphragm which were closed by suture and which recovered are placed on record by C. SCHLATTER (*Münch. med. Woch.*, Aug. 20, 1901). In penetrating wounds of the chest this complication can sometimes be readily seen or felt with the finger, at other times, prolapse of the intestines will give evidence of the condition. Often, however, the diagnosis is extremely difficult and can only be made by enlarging the wound. Symptoms directly traceable to the diaphragmatic injury, such as vomiting and changes on auscultation and percussion, are only exceptional. A knowledge of the character and length of the instrument used will often be of value. The importance of an operation is evident when we consider that the mortality in unoperated cases is 88 per cent. and in the operated only 12 per cent.

Influence of Water, Common Salt and Sodium Bicarbonate on Gastric Secretion.—By means of animal experimentation with gastric fistulæ, FRÉMONT (*Bull. therap.*, 1901, p. 575) showed that distilled water is capable of markedly stimulating gastric secretion; the temperature of water used is of comparatively little moment. Sodium chloride is said to be so mild a stimulant of the gastric mucous membrane that it cannot be relied upon to augment an insufficient secretion; bouillon is a more potent stimulant, and sodium bicarbonate causes the production of a voluminous viscid secretion.

Gas Cysts of the Central Nervous System.—Since the first description of gas cysts of the central nervous system, published in 1899 by Reuling and Herring and also by Howard, this subject has attracted considerable interest. W. T. HOWARD (*Jour. Med. Research*, July, 1901) now adds the study of six new cases. In five of these cases, proved to be caused by bacteria, four were due to bacillus ærogenes capsulatus and one to the bacillus mucosus capsulatus. In two cases of gas in the blood-vessels of the brain (and in

the disorganized brain tissue of one of them), associated with general gaseous emphysema, the first-named organism was present in pure culture in one and in association with the second-named organism in the other. He believes that frequent and more careful examination of the brain at autopsy, especially in cases of general emphysema, will probably show that gas cysts of this organ are more common than is generally supposed.

Albumosuria in Osteomalacia.—The appearance of the so-called Bence-Jones bodies in the urine has been considered as pathognomonic of multiple bone myelomata. G. JOCHMANN and O. SCHUMM *(Münch. med. Woch.,* Aug. 20, 1901) have, however, found the substance in a typical case of true osteomalacia, and by isolating it from the urine have proved that it belongs to the class of the albumoses. The diagnosis of osteomalacia was confirmed by microscopical examination.

Ptomain Paralysis.—The sudden appearance of motor paralysis in a boy of fifteen years and in his mother, aged forty, was attributed by P. A. PREOBRASCHENSKY *(Deut. Zeitschr. f. Nervenheilk.,* 16 Bd., 5. u. 6) to auto-intoxication of the gastro-intestinal type, due to eating fish. The clinical picture resembled a myasthenia or a polio-encephalomyelitis. There were no prodomata such as fever, vomiting or diarrhea. Almost all the muscles of the body were involved, but especially those supplied by cranial nerves, including the oscular muscles and those of speech, mastication and deglutition. The upper extremities were affected more than the lower; the paralysis developed in the course of several days, proceeding from above downward. There was no disturbance of sensation, of intellection, of bladder or rectum. A gradual return of muscular power occurred after several months.

Peritoneal Grafts of Echinococcus.—It has been shown that daughter-vesicles placed free in the peritoneal cavity are capable of forming attachments, of developing and of reproducing themselves. The liquid contents of the hydatid cyst alone are incapable of forming or of causing the production of a new cyst; they acquire this power only when they contain formed elements, either scolex or proligerous vesicles. Engrafted hydatid cysts rapidly acquire an endothelial covering and thus become secondarily extraperitoneal. The practical bearing of these facts is pointed out by M. GUIBÉ *(La Presse Méd.,* Aug. 28, 1901). They explain the occasional inoculation of the peritoneum in the course of surgical intervention. They constitute an argument against puncture in the treatment of hydatid cysts, for during or after puncture inoculation of the peritoneum may readily result from the escape of cyst-contents. They indicate clearly the most careful surgical treatment with as careful protection of the operative field as when an abdominal collection of pus is opened.

Action of Proteolytic Enzymes on Bacterial Toxins.—It is a well-estabished fact that many bacterial toxins when ingested by the mouth lose their toxicity. It is, however, not clear whether these toxins are neutralized by the enzymes or digested by them. This question is of fundamental importance in ascertaining the chemical nature of toxins for if these are simply neutralized they may be of a non-proteid composition, while if they are digested they are in all probability proteids. E. R. BALDWIN and P. A. LEVENE *(Jour. Med. Research,* July, 1901) have investigated this question in a series of studies in which they submitted toxins to the action of the proteolytic enzymes pepsin, trypsin and papain and subjected the resulting products to animal inoculation. They limited their researches to diphtheria and tetanus toxins and tuberculin. The first two are digested and not neutralized by each of these three enzymes. In regard to tuberculin the matter is more complicated. In a general way trypsin and pepsin digestion weaken the specific activity of tuberculin and trypsin on long action can destroy all its power while this result cannot be accomplished by pepsin. They hence feel justified in the conclusion that tuberculin is a nucleo-proteid, since these are more easily destroyed by trypsin than pepsin.

Protracted Influenzal Pneumonia in Infants.—While no period of life is exempt from influenza, it has been observed, during the pandemics of grippe that have encircled the world, that infants are in a high degree immune. Nevertheless four infants, suffering from protracted pneumonia of influenzal origin, were observed simultaneously in one institution, according to F. X. WALLS *(Jour. Amer. Med. Assoc.,* Aug. 31, 1901. In the presence of an influenza epidemic, with evident infection of other members of the household, the probability that a serious illness in an infant was influenza would suggest itself. The following diagnostic feature of grip pneumonia would be included: Sudden onset, mild intestinal symptoms, evidences of inflammation of the upper respiratory tract, sharp elevation of temperature and highly irregular course of fever, with physical signs of a lobar pneumonia and demonstration of Pfeiffer's bacillus. Prognosis should be guarded. The frequent occurrence of tuberculosis as a sequel should be kept in mind. Cases must be treated on general principles; so far as room-temperature is concerned, Walls recommends 80° to 85° F.—a temperature above that advised in ordinary pneumonias.

Indications for Gastric Surgery.—Concerning when to operate on the stomach, O. J. KAUFFMANN *(Birmingh. Med. Rev.,* Aug., 1901) expresses himself as follows: (1) Cases of perforation of the stomach which preclude that the general texture of the wall of the stomach is not greatly altered and that the perforation is small and recent are suitable. (2) For gastric ulcer with severe acute symptoms, even if recurrent, operation is inadvisable. (3) In atonic dyspepsia, if cancer is suspected but cannot be felt, the indication is so uncertain that rigorous diet, lavage, rest and medication should be given a thorough trial. (4) Where cancer is suspected, though not

palpable, and where anemia is beginning and progressing, exploratory laparotomy is advisable if the general condition permits. (5) Where cancer is improbable and where simple fibrous stricture or pyloric spasm is suspected, operation should be undertaken only if the weight falls progressively in spite of treatment.

Varieties of Diphtheria Bacilli.—The diagnosis of diphtheria by the examination of cultures necessitates the recognition of the bacillus by its microscopical appearance and the treatment and isolation largely depend upon the ability of the bacteriologist to so determine the presence or absence of this organism. Variability in form and staining reaction is one of the most striking characteristics of this bacillus. The questions arise, Can we identify this organism by its morphology alone? Is there a pseudodiphtheria bacillus? Has the susceptibility of the patient any influence upon the morphology of the organism? Is there any relation between the microscopical form and virulence? FREDERIC P. GORMAN *(Jour. Med. Research,* July, 1901) attempts to answer these questions by the means of experimental research. He examined 2,375 cases of which 431 showed diphtheria-like bacilli. The cultures were made on Loeffler's blood-serum, incubated for twelve to twenty-four hours, and the organisms were stained with Loefler's methylene blue. He confirms Westbrook's statement that the granular types are most predominant at the onset of the disease; but that they give place wholly or in part to barred or solid types shortly before their disappearance. Sometimes solid types may be replaced by granular types when convalescence is established shortly before the throat is cleared of this organism. The diphtheria-like organisms are more frequent in the nose than in the throat. There are diphtheria-like organisms present in the nares and throats of a large percentage of apparently healthy individuals. The change from granular or barred to solid types seems to take place under the influence of the body fluids of a person immune or becoming so. The virulence seems to be correlated with the morphology. So-called pseudodiphtheria bacilli are morphological varieties of the diphtheria bacillus and are sometimes capable of producing clinical diphtheria, but are not usually pathogenic for guinea-pigs. We cannot tell whether the solid types are able to regain their virulence when once they have lost it, but this seems probable. Neisser's stain is of no value in differentiating barred or solid types.

Psychoses of Influenza.—The various psychical disturbance having influenza as their cause may occur in persons hitherto of normal mental condition, says H. S. UPSON *(Cleveland Jour. of Med.,* Aug., 1901) when they usually take the form of delirium. Or the subjects may be more or less predisposed to nervous affections, when hallucinatory confusion, acute dementia, mania or melancholia is apt to follow. In the third class the insanity in some form is already in existence, but latent, and an exacerbation is evoked by the grip. Of the various deliria, the initial one is the most interesting in that it is often sudden and unexpected in onset and that it may appear with very mild attacks. Febrile and collapse deliria come later in the disease and are more common with the severer types. Acute hallucinatory insanity has strong points of resemblance with delirium on the one side and acute mania on the other and the hallucinations have a tendency to be of a horrific character. Acute mania and melancholia do not differ from those of other diseases; the same may be said of delirium tremens, which greatly enhances the danger of heart-failure. The general depression which follows grip deserves careful study and the languor, rheumatic pains and indefinite aches make rest almost intolerable. The prognosis in these psychoses is generally good, especially if the patients are not previously neuropathic.

Cardiac Lesions of Influenza.—It has been the experience of L. W. LADD *(Cleveland Jour. of Med.,* Aug., 1901) that next in importance to the pulmonary complications of influenza, the cardiac disturbances are to be rated. They frequently are purely neurotic in the form of tachycardia, bradycardia or arhythmia, but extreme cardiac failure and cardiac dilatation are not rare. The latter may be due to the action of the influenza toxin upon the nervous mechanism of the heart, it may be a true toxic myocarditis or dilatation may occur with conditions interfering with the outflow of blood. Ordinarily the dilatation is transitory and no permanent defect remains, but occasionally acute dilatation with sudden death supervenes. Pericarditis, while rare, is more frequent than endocarditis and in most cases pyogenic cocci have been found culturally. Acute aortitis has been reported several times.

Stenoses of Nose Affecting Distant Functions.—Several unusual cases are reported by W. P. PORCHER (*N. Y. Med. Jour.,* Aug. 31, 1901) showing how interference with the nasal passages may reflexly as well as directly affect the functions of the ear and throat. A small osteoma was removed from the septum of one case to relieve partial deafness for which no other cause could be found. The hearing was improved and a cough from which the patient had suffered for five years entirely disappeared. The removal of an hypertrophied turbinate bone in one case and a nasal polypus in another resulted in marked improvement of the sense of hearing in both cases. He quotes a number of good authorities to show what a close connection there is between the mucous membrane of the nose and the female genitalia. Several cases of marked dysmenorrhea have been entirely cured by cauterization of the four genital spots in the nose, and he suggests that in obscure cases of dysmenorrhea, purely neurotic cases due to reflex stimuli from the nose, may be separated from mechanical and organic obstructions to the menstrual flow by thoroughly cocainization of these genital points during an attack and observing the results.

Yellow Fever in Havana.—During the last three years only, there has been an accurate ac-

count of the number of cases of yellow fever in Cuba, but the disease has been about equally prevalent each year and very little progress had been made against it until more sanitary methods were introduced by the Americans. W. C. GORGAS (*Med. Rec.*, Sept. 7, 1901) gives a history of the disease in that locality, showing that it begins to appear soon after the first of April and slowly increases until it reaches its height in July and then decreases during the fall and winter. During the last three years the number of deaths has much decreased and only two have occurred thus far this year. The methods of sanitation are founded upon the belief that the mosquito is responsible for conveying the disease and every effort is made to destroy favorable breeding-places for these insects. The city is closely inspected, all cesspools drained, and no stagnant water is allowed to stand unless protected by mosquito-proof netting. Coal oil is used freely upon all water which cannot be drained away, and the results which have attended the efforts made are most satisfactory and encouraging.

Conservatism in Pelvic Inflammations.—In conducting a series of microscopical examinations of the Fallopian tubes removed by operation, J. L. ROTHROCK (*St. Paul Med. Jour.*, September, 1901) was struck by the slight changes which had occurred in these structures. He advances a plea for greater conservatism in such conditions. Many attacks of pelvic inflammation do not reach the stage of suppuration. Indeed, at the Leipsig Frauenklinik, but 4 per cent. of all the cases terminated thus. In patients operated on there was a relief of symptoms in only 33 per cent., while the remainder underwent the same sufferings after as before the operation. Even in the so-called successful ones, the neurotic tendencies superinduced by the removal of the ovaries became sources of grave danger. The author therefore experimented upon a great many cases in his practice with a view of determining the necessity or otherwise of radical operation. His treatment consisted chiefly of local measures. After removing the mucopurulent secretion from the cervix, daily irrigation of the uterine cavity is practised with bichloride of mercury, 1-5000, or with permanganate of potash, 1-1000, following with an application of ichthyol, 50 per cent., in glycerin; or formalin 25 per cent. Should the os be stenosed which often happens in multiparæ, the cervix must first be dilated. It is absolutely necessary that the os should be patulous in order to secure free drainage. In cases where localized peritonitis is present, the patient is first placed in bed, an absolute rest is essential. Cold or hot applications to the abdomen and antiseptic douches are at this stage the only treatment. After subsidence of all pain and fever local treatment is begun. The duration of such local treatment embraces a period of from six to eight weeks. In cases in which the early treatment has been neglected, the outlook is not so encouraging. Should pus have accumulated, drainage *per vaginam* is much safer than the other route. It may be remarked that Kroenig of Leipsig has stated that in 90 per cent. of his cases, treated by the expectant method, the results were so favorable that subsequent treatment was unnecessary.

A New Continued Fever.—An epidemic of about sixty cases of a disease manifesting itself by a rapid onset, chilly sensations, increasing temperature, irregular pains and mental depression has been reported by E. J. SPRATLING of Georgia (*Med. Rec.*, Sept. 7, 1901). The temperature frequently ran up to 104 to 106°F. It resembled dengue in many particulars, but was too variable in its mode of onset. In dengue whole families are usually affected; in this, rarely more than one. The symptoms lasted only from two to five days and then rapidly subsided. The patients would "feel fine" afterward and "could get up if only stronger." The erratic fever usually persisted for three to five days longer. Prognosis was good when the heart was not affected. The author believes this to be a close congener of, if not actually, Mediterranean fever.

Menthol in Gastritis.—The uses of menthol in acid dyspepsia are described by G. E. CAMPBELL (*St. Paul Med. Jour., Sept.*, VIJV). He used the drug in stomach troubles characterized by gastrodynia, distention, eructation, cardiac distress and vomiting. The object in these cases is to neutralize the hyperacidity and relieve the hypersensitiveness of the organ. The author uses for this purpose menthol combined with bicarbonate of sodium before meals and pepsin after meals. Menthol given in ⅛- to 2-grain doses one-half hour before meals relieves the distressing pain, and has given by far the best results in these cases.

The Influence of Auditory Lesions on Galvanic Vertigo.—If the electrodes of a galvanic current be applied to opposite sides of the head the subject becomes dizzy; the head and upper part of the trunk incline toward the side to which the anode is applied. According to J. BABINSKI (*Soc. de Biol.*, 1901, No. 4) the inclination of the head produced by the galvanic current is, in cases of ear trouble, toward the diseased side. Babinski regards the vertigo which occurs as the effect of electrical stimulation of the labyrinth. His observation is of possible value in fixing the diagnosis of doubtful cases of ear disease with involvement of the labyrinth.

The Specific Treatment of Tabes.—A protest against the introduction of a rigorous antisyphilitic regimen in all cases of tabes, regardless of the individual history, is made by K. v. KETLY (*Orvosi Hetilap.*, No. 2, 1901). In the presence of other evidences of syphilis, antiluetic treatment should be begun at once; but where there are no other signs of an active syphilitic infection and the etiology is based on historical data, mercury should only be resorted to provided the tabes is in its early stage and the patient is in good condition. In advanced tabes the weak-

ness of the patient is intensified by specific treatment. In early cases where syphilis is merely suspected, specific treatment may be tried, but should be discontinued if it proves ineffectual or if troublesome symptoms arise. Tabes itself, according to this writer, is not cured nor directly affected by mercury. Our efforts should be directed toward increasing the vital resistance of the organism, and toward modifying symptoms. Patients must avoid physical and mental strain, exposure to cold, excesses *in Venere* and *in Baccho*. Moderate exercise is advisable. Internally v. Kétly recommends silver nitrate in pills. In syphilitic neuralgia potassium iodide is invaluable. Faradization and galvanization, and hydrotherapy, are useful factors in treatment.

THERAPEUTIC HINTS.

Measles.—Confine patient to bed in room at 65° F. and if cough is hard and irritating have a croup-kettle to keep the air moist. The diet may be milk diluted with barley-water or seltzer or in mild cases sops or light puddings may be allowed. Frequent spongings with warm water containing tar-water relieve the itching and tend to bring out the rash. Demulcent drinks, such as barley-water, lemonade, black-currant or tamarind drinks or jellies will allay irritating cough. During the pre-eruptive stage, with high fever, restlessness, cough and frequent pulse, small doses of tincture of aconite will give relief. During convalescence great care should be taken to prevent catching cold, as such a complication may produce serious results. When there is scant rash, congestion of internal organs, high temperature and bronchopneumonia, the skin must be made to work actively by tepid sponging, hot packs, or mustard baths. A child under two years may be placed for three minutes in a bath at 100° F., containing one tablespoonful of mustard to a gallon. In older children, the hot pack is preferable. In the early stages tartrated antimony, gm. 0.0005-0.001 (gr. $^1/_{120}$-$^1/_{60}$), with tartrated soda or citrate of ammonium, should be given every three or four hours unless there be nausea; whisky or brandy should be given if the pulse is small and rapid, or the tongue brown and dry. Excessive bronchial secretion requires ammonia, digitalis and alcohol. In severe cases the eyes, nose and mouth should be bathed in warm water and carefully looked after. During convalescence no medicine answers better than nitric acid and bark.—ASHBY and WRIGHT in "Diseases of Children."

Hot Air.—Although moist temperatures of 125° to 150° F. cause a distinct burning of tissues, and are bearable for a short time only, nevertheless the same temperature free from moisture, writes O. S. WIGHTMAN (*N. Y. Med. Jour.*, Aug. 17, 1901), may not only be borne with comfort, but with positive sensations of relief. The part to be baked, having been washed and thoroughly dried, is wrapped in soft absorbent material which will absorb the moisture that collects on the surface. Light blankets, rough toweling or heavy cotton-batting may be used. The part is then placed in the oven. If in pain the first sensation is that of needles pricking, but this soon gives way to a feeling of comfort. The physiological action of dry heat consists of a rapid dilatation of the peripheral arterioles, followed by flushing or mottling. In the heavy parts there is a local stimulation of glandular secretion. In sluggish ulcers, cell-growth is stimulated. The heart's beat increases from ten to twenty-five a minute and the respiration from two to six. The kidneys are much relieved of congestion, though immediately after treatment there may be a decrease of fluid and solid constituents in the urine. After an hour's exposure, the mouth temperature rises from two to five degrees. Of the nerves, there is primary stimulation of the vasoconstrictors, then of vasodilators, and, finally, a desire to sleep. The cases suitable for treatment are sprains, synovitis, contusions, traumatic inflammations, edema following fractures, acute and chronic nephritis, anasarca, dropsy, and, above all, gout and rheumatism. Other diseases reported as benefited are suppressed menstruation, pleurisy, bronchitis, ulcers, skin lesions, and various neuroses. In connection with heat, too much stress cannot be laid on the value of massage, except in acute inflammations, and in all cases constitutional treatment should not be neglected. The advantages, then, of dry heat are as follows: It relieves pain without depressant effects, stimulates rapid repair, absorption, and elimination, and acts as a sedative to the nervous system beyond every other agent.

Gelatin in Hemorrhage.—The use of circulatory stimulants and vaso-constricting styptics, such as ergot or suprarenal extract, to check internal hemmorrhage, is directly opposed to Nature, writes H. C. WOOD, Jr. (*Merck's Archives,* Aug., 1901). Gelatin is practically insoluble in cold water, but freely in hot, and if over 2 per cent. it solidifies on cooling. If the solution is maintained at a temperature above 110° C. (230° F.) it loses the property of jellying. Weak salines cause comparatively little change in the jellification. A five-per-cent. solution of gelatin in physiological salt solution made the urine of a dog solidify on cooling, and the blood from the dog coagulated almost instantly, the coagulation being a true clot, and not a jelly. In studying anti-coagulants, gelatin was successful in making the blood clot only in the presence of peptone anti-coagulants, as propeptone. As a local stypic, in menorrhagia and metrorrhagia, hematemis from gastric ulcer, hemorrhoids, etc., it has proven of great value. But as an internal remedy in hematuria, hemoptysis, purpura hæmorrhagica, hemorrhage following operations on the icteric, etc., it has also been found to have a value possessed by no other drug. The total amount injected should be from gm. 1-5 (gr. xv-lxxv). Locally it is used in 10-per-cent. solution.

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SATURDAY, SEPTEMBER 21, 1901.

THE PRESIDENT'S CASE.

PRESIDENT MCKINLEY died at two o'clock on the morning of Saturday, September 14th, seven and a half days after his injury was received. Up to and including most of Thursday, the sixth day after the injury, he had apparently been advancing steadily toward recovery; his temperature had fallen below 100° F., his abdomen was soft and painless and he had taken liquid food by the mouth with relish, but his pulse remained at a little above 120, and on Tuesday some of the stitches had been removed from the incision for the relief, as stated, of a slight infection thought to have been caused by a piece of the shirt carried into the wound by the bullet. His recovery was predicted by those in attendance and by many other physicians interviewed by the papers in various parts of the country, and the prediction seemed amply justified because he had passed the period during which the habitual causes of death after such an injury and operation manifest themselves.

But on Thursday a notable weakness of the heart appeared; it was thought to be due to indigestion, and a laxative was given. Early in the morning of Friday the weakness recurred in an alarming way and persisted, with some intervals of slight improvement under stimulation, until his death twenty-four hours later. Death came quietly after six hours of unconsciousness.

A brief official note of the autopsy, made nine hours after death, was promptly published, and has been followed by informal but apparently authorized statements giving additional details by some of the attending surgeons.

The official account of the autopsy is as follows:

"The bullet which struck over the breastbone did not pass through the skin and did little harm. The other bullet passed through both walls of the stomach near its lower border. Both holes were found to be perfectly closed by the stitches, but the tissue around each hole had become gangrenous. After passing through the stomach, the bullet passed into the back wall of the abdomen, hitting and tearing the upper end of the kidney. This portion of the bullet track was also gangrenous, the gangrene involving the pancreas. The bullet has not yet been found. There was no sign of peritonitis or disease of other organs. The heart walls were very thin. There was no evidence of any attempt at repair by Nature, and death resulted from the gangrene, which affected the stomach around the bullet wounds, as well as the tissues around the further course of the bullet. Death was unavoidable by any surgical or medical treatment and was the direct result of the bullet wound."

The unofficial statements are somewhat conflicting as to matters of fact and opinion. Dr. Wasdin is reported as saying:

"I have seen many gangrenous cases, but none in which the parts lacerated by the bullet were so completely and uniformly affected. The entire tract of the wound from the outer surface of the abdomen, through the tissue, fat, stomach, and abdominal cavity back of the stomach was thoroughly and completely gangrened.

"The wound in the posterior wall of the stomach was particularly affected, the gangrene extending for a radius of almost two inches around the sutures.

"I have never seen such a condition. When the stomach was removed the tissue bore no resemblance to human tissue, and, in fact, was as bloodless as, and much resembled, a piece of clay.

"On Tuesday it was decided to open the external wound in the abdomen. There had been some irritation there, and we decided to find out the cause. At first we took out a few of the stitches and, later, laid open the entire incision, leaving an opening in this wound five inches long and three inches deep. It required no effort to open the incision. We immediately found in the track of the bullet through the flesh and fatty tissue that gangrene had developed. None of the parts other than those around the immediate

bullet wound were affected. We removed this affected tissue, cleansed the wound and closed it."

Dr. Wasdin attributed the gangrene to "some powerfully corrosive poison" introduced upon the bullet, and added: "My belief that the bullets were poisoned is strengthened by the fact that the wound in the breast, although very slight, had gangrened when the autopsy was performed."

Dr. Park, in an interview said to have been written out in his presence, says:

"There is no reason to believe that poison was introduced into the wounds. The gangrene was caused by the secretion of the pancreas escaping from the wound and producing the trouble. The pancreas was perforated by the bullet. There was no way in which we could determine from outward evidences that gangrene had set in. There are no indicative symptoms."

"Is it not a fact, Doctor, that when the surface wounds were opened Tuesday it was found to be affected by gangrene, and that the affected portions were then removed?"

"No, Sir; it is not. There was merely an irritation, and we found nothing that indicated the presence of gangrene. Even at the autopsy it was discovered that gangrene existed only along the track of the bullet from the posterior wall of the stomach to the kidneys. The wound in the anterior wall of the stomach was but very slightly affected."

Dr. Mann says:

"No. The only parts in the abdominal cavity penetrated or touched by the bullet were the stomach walls and the top of the kidney. The pancreas was not touched, although it was involved in the gangrenous process. I was surprised, in fact astounded, at the condition of the internal organs revealed by the autopsy. In all my experience I have never found organs in such a state; to use a vulgar phrase, they were rotten."

Dr. Mynter says that the pancreas was not wounded and that no gangrene was observed along the course of the bullet through the anterior abdominal wall when the incision was opened on Tuesday. Both he and Dr. Mann declare themselves unable to account for the extensive gangrene.

Of these differences as to matters of fact, the one concerning the presence of gangrene in the parietal incision may be dismissed as simply due to a difference of definition. Something must have been wrong there, or the sutures would not have been removed. Whether that was an "irritation," as Dr. Park calls it, or a superficial necrosis along the track of the bullet, it could not have affected the result, and its sole significance is in its possible bearing upon the cause of the extensive gangrene observed elsewhere.

Much the same can be said of the asserted and denied wounding of the pancreas. It is asserted by one, denied by three, and not mentioned in the formal report. Probably, therefore, it did not exist or was slight.

There remains the extensive gangrene, which is affirmed by all and which was undoubtedly the cause of death, and the question of its origin. Two theories have been advanced, (1) that it was due to a poison conveyed by the bullet, and (2) that it was due to the action of pancreatic juice that had escaped from the wounded gland. The second theory seems untenable because similar action is not described as occurring after other wounds involving an escape of the pancreatic juice, because the gangrene involved parts (the anterior wall of the stomach), which the escaping juice could not have reached except after having passed by other parts which were not similarly affected and because it appears to have been a necrosis, a death in bulk, rather than a progressive digestion. And this view is reinforced by the fact that as the patient had been fed for the first four days exclusively by the rectum, the pancreas had not been stimulated to functional activity.

The other theory, that of a poisoned bullet, is warmly urged by Dr. Wasdin. In the absence of specific proof, such as may yet be furnished by bacteriological or chemical tests of the tissues and of the other bullets, it seems as unlikely to be correct as the other. The author of the theory admits his inability to name a poison that would produce such an effect, and the two poisons recommended in the Anarchist manual of assassination, curari and verdigris, are incompetent to produce it. We must therefore await the results of the investigation said to be now in progress. If sloughing existed, as asserted by Dr. Wasdin, beneath the unbroken skin of the breast, where it was struck by the other bullet, it cannot be explained by either theory.

The gangrene, extensive as it was, seems to us not so different from others observed under analogous circumstances as to require the assumption of exceptional causes for its explanation. Necrosis of tissue in a thinner or thicker cylinder along the track of a bullet is thought to be the rule, and ordinarily it is easily taken care of by liquefaction and ab-

sorption. And necrosis, even of considerable extent, in feeble patients, about a sutured wound is certainly not unknown even if rare, and is explained by interference with the local circulation either by tension or by the spread of coagulation within the blood-vessels. It has not been made known to us whether this was a septic or an aseptic necrosis, but it was presumably septic, since the parietal wound presented symptoms, due apparently to the same process at that point, which necessitated the removal of the sutures.

In either case, and especially in the former, the spread of the process in a patient of low reparative power would not be so very exceptional or surprising. Was the President such a patient? Apparently he was. According to Dr. Wasdin, when the incision was reopened toward the end of the fifth day "no effort" was required to open it throughout its entire length, although only the track of the bullet was affected. That expression would hardly have been used unless he had intended to indicate that the amount of repair usual after that lapse of time had not taken place. Then, the President was fifty-eight years of age, had led a sedentary, laborious, and anxious life, and had a complexion and appearance which for some years had been commented upon as indicative of impaired vitality.

It is evident that the surgeons, notably Drs. Mann and Mynter, with whom the first decision lay, acted with commendable promptitude and courage in undertaking the operation, and showed excellent judgment in its course and skill in its execution. They did all that could properly have been done and nothing that should have been left undone. The usual causes of death after such injury and operation were escaped or removed or prevented, and their patient succumbed to a complication which is so rare that it could not reasonably have been anticipated and could not have been averted. The President died because he could not carry on the processes of repair, and because the effort to do so was more than the vitality of the tissues involved could support. This, of course, excludes the possible presence of poison brought by the bullet or of destructive action by the pancreatic juices. If either of those was a factor, it needs only to substitute it in the statement for the assumed defective vitality of the patient. Whatever cause acted, it was unrecognizable at the operation and uncontrollable then or subsequently.

There has been some criticism of the confident assurances of recovery made by those in attendance after the fifth day. To us the progress of the case up to that time appears fully to have justified those assurances and the public anxiety to have required them. The habitual causes of death had been escaped, and recovery could be prevented only by some rare complication which there was no reason to anticipate. The only irregular symptom was the frequency of the pulse, and that could be reasonably accounted for without invoking conditions that endangered life. There was not the slightest nausea, no complaint of discomfort, not the least abdominal pain; a soft abdomen in which percussion and firm pressure disclosed no sensitiveness; the bowels acting; the tongue clearing; the temperature falling; and a cheerful mind. Who can think that with such conditions on the sixth day the surgeons were not fully justified in believing that recovery was assured and, believing, in saying so? That a rare and at that time wholly unindicated complication should have then intervened was their and our misfortune. They did their work skilfully and judiciously, their behavior was dignified, restrained, and worthy of the best traditions of the profession, and they had the misfortune, when success seemed to have been secured, of seeing it overthrown by a complication which could not have been foreseen or avoided. They deserve our admiration and sympathy, not our criticism.

MEDICAL RESEARCH AND REGULATION IN THE PHILIPPINES.

THE United States Government has recognized the needs of medical research in the tropics and the advantage of a health department for the protection of its citizens. It has therefore created two institutions meant to fill these wants, a Government laboratory and a board of health.

Under the term of the Government laboratory there is to be a biological laboratory, a chemical laboratory, and laboratories for the production of vaccine virus and of serums and prophylactics will be established and maintained by the Government of the Philippine Islands. The biological laboratory will be situated at Manila, and will afford adequate facilities for investigation into, and scientific report upon, the causes, pathology,

and methods of diagnosing and combating the diseases of man and of domesticated animals, and of animals utilized for food, and of plants useful to man, as well as for such other biological work as may be deemed necessary by the Board of Health for the Philippine Islands, the Forestry Bureau, the Bureau of Agriculture, or any other department or bureau of the Government.

The chemical laboratory will be situated at Manila, and will afford adequate facilities for investigation and report as to the purity of foods and drinks; as to the composition and properties of gums, resins, drugs, herbs, or other plant products of known or supposed commercial value; as to soils or fertilizers; as to minerals and minero-medicinal waters of the Philippine Islands, and for such other chemical investigation as may be deemed necessary by the Board of Health for the Philippine Islands, the Department of Public Instruction, the Forestry Bureau, the Mining Bureau, the Bureau of Agriculture, the Customs Service, or any other department or bureau of the Government.

Laboratories for the production of vaccine virus and of serums and prophylactics will be established and maintained at Manila and at such other points in the archipelago as the Board of Health for the Philippine Islands may advise and the central legislative body of the Islands may determine upon.

There will be a superintendent of government laboratories, at a salary of $4,000 per year. He will have charge of the construction and equipment of all Government laboratories for the Philippine Islands and of the purchase of all apparatus, supplies, and books which may be authorized for use in connection with such laboratories.

With such an ample provision it is evident that some valuable results can be obtained. We further congratulate the Government in its choice of the Superintendent, Dr. Freer of Ann Arbor.

The Insular Board of Health is also founded on broad lines and has had conferred upon it the powers of a modern municipal health department.

SUCCESSFUL PHOTOTHERAPY.

THE recent award to Prof. Finsen of Copenhagen of one of the magnificent Nobel prizes (its value is over $50,000), established by the will of the great Danish manufacturer of dynamite, recalls the attention of the medical world to Finsen's successful researches in the domain of light therapeutics. It is fortunate, for in the multitude of claims on medical attention, sometimes the really good things are for a time at least crowded out of sight. Prof. Finsen's work, accomplished with patient scientific carefulness and modestly given to the medical world with none of that blare of trumpets that has so often of late accompanied less deserving and successful effort, fully merits the reward and the renewed attention that will be given to it as a consequence.

Prof. Finsen's researches into the effect of light on human beings began with the investigation of the influence of light in smallpox. Only parts of the body, as the face and hands, that are exposed to the action of light during the course of the disease become disfiguringly pitted by smallpox. All the methods of treatment suggested for smallpox, before Finsen's investigations, that had any measure of success in the prevention of pitting had this in common—they kept the hands and face of the patient more or less thoroughly protected from light. This was accomplished in various ways, mostly without any direct intention of light occlusion on the part of the inventors, but, fulfiling this purpose unfailingly. Prof. Finsen then protected a series of smallpox cases from the light and showed that this method of treatment sufficed in practically every case in which it was begun sufficiently early in the disease to suppress the secondary suppurative stage of the disease and consequently to prevent all danger of pitting. It is almost needless to say that it is the secondary fever of smallpox which constitutes the most serious period of the disease. It is at this time that the vast majority of the deaths from the disease take place and that consequently Prof. Finsen's treatment, far from being only cosmetic in its effects, saves many lives and much suffering.

Finsen was thus encouraged to investigate further into the action of light upon the skin. He found that the harmful effects of light were all due to the rays from the violet end of the spectrum. The light rays that affect a photographic plate, some of them beyond the violet in the spectrum, and so producing no sensation of light for human vision, are also active factors in the production of irritative skin conditions. For the successful treatment of smallpox cases it was only necessary, then, to exclude the violet and related rays of light by means of dark-red glass. This discovery has been confirmed by many observers and especially in our present smallpox conditions deserves more serious attention.

Finsen's researches were appreciated by his fellow-countrymen better than is usually the case. He was enabled to continue his investigations into the possibilities of preventing the harmful action of light in disease and using it as a direct therapeutic agent by the generous erection for him of a Light Institute in Copenhagen. He knew that light was a bactericide. His investigations in smallpox showed that the action of light penetrated well beneath the superficial layers of the skin. In variola the light injured the cutaneous cells more than it did the microbic cause of the disease, but it might well prove that in other diseases, the bacteria would be destroyed without serious injury to the skin. Finsen tried the action of concentrated light upon lupus patients and found that it produced a cutaneous reaction that was followed by the cicatrization of the lupus nodules. He continued his observations for several years and convinced himself of the absolute certainty of his results before he gave his conclusions to the public. His communication was considered to be one of the most valuable practical contributions to dermatology in the last decade of the century.

Finsen experimented with the action of light in other diseases, but without as much success as in lupus vulgaris. Lupus erythematosus was sometimes favorably influenced by phototherapy, but sometimes it was not. If the disease is due, as is thought by many, to the toxin of tuberculosis in contradistinction to its congener lupus vulgaris, which is the result of the presence of tubercle bacilli, then the difference in the effect of light on the two diseases would seem to point to a true parasiticidal action of light in the therapy of lupus vulgaris. This is confirmed by the fact that alopecia areata is always favorably influenced by exposure to concentrated light, for this disease is now very generally considered to be due to the presence of a parasite.

In recent investigations Prof. Finsen has shown conclusively that light, apart from heat, is capable of producing effects in the skin that persist for long periods. Exposure of the arm for twenty minutes to the light of a 40,000 candle-power electric light (the large arc light used for lighting city parks and squares is, according to Prof. Finsen, never of more than 4,000 candle-power) is followed by a severe inflammatory reaction and then by pigmentation that persists for many months. Finsen's patient, modest, successful work deserves the reward that has come to him all unsought. The monetary part of it will doubtless be well employed in furthering the progress of phototherapy. He has gathered around him a band of younger workers who have caught some of his enthusiasm. A recent volume of the Transactions of the Finsen Medicinske Lysinstitut (Medical Light-Institute) gives promise that this new and encouraging branch of therapeutics will receive the due share of careful experimentation that will guarantee its timely development to the fullest possible extent.

SECRET MEDICINAL PREPARATIONS.

AMONG the points in the administration of public affairs in the Old World which claim our admiration is the official control exercised over medical matters. A report of the United States Consul-General at Vienna shows the measures adopted by Austria for the protection of the people of that country. The sale of secret remedies is forbidden and no apothecary is permitted to keep for this purpose any medicinal preparation "of which the prescription is not open to inspection by physicians or in the prescription of which the substance of the medicinal ingredients cannot be definitely recognized as to kind and quantity." Government inspection of all new preparations is required before their sale is allowed, and cosmetics the labels, wrappers, or advertisements of which claim that they are efficacious in removing personal blemishes are absolutely barred. No testimonials from abroad of the cures effected by patent remedies may be published in the local papers.

The wisdom of much official regulations cannot be questioned. It is more than doubtful, however, whether the needful legislation could be secured in this land, where the privilege of being humbugged is claimed as one of the inalienable rights of the citizen of a free country, and where opposition to the acts of others is attributed to jealousy on the part of the medical fraternity. Does not Mark Twain, attempting to depart from the field of humor in which he is frequently successful, complain, "How is it that there are a thousand ways in which I may be permitted to damn my soul, but when it comes to a trivial matter like temporary ill health, the Legislature must prescribe how I shall do it. It is absurd and ridiculous?" The almighty dollar and political ambition are still more serious obstacles. The stand of the powder and shot manufacturers in the crusade against the butchery of thousands of living pigeons in the name of sport illustrates

the difficulty in obtaining legislation which affects the pockets of a large and wealthy class.

And what an outrage to restrict the publication of testimonials—the only means short of violent crime that many prominent citizens of Wayback possess for obtaining publicity! The depth of such an injury is too great to be lightly passed over. There is apparently but one honor which touches a certain type of citizen of uncertain degree of education as keenly as he feels the privilege of being humbugged, and that is the publication of his portrait, name, and an alleged personal testimonial. It is related that a stranger recently approached a man of national prominence and said that he believed he had seen his picture somewhere. Being told that it was quite possible, he asked, "What were you cured of?" The life of the reformer is hard, and the introduction of the ways of monarchies is not considered by Mr. Spate to be easy or a complete success. Public restriction of secret medicinal preparations is almost too much to expect in the near future.

ECHOES AND NEWS.

NEW YORK.

Board of Health Asks More Money.—The Department of Health of New York City has submitted to the Board of Estimate and Apportionment its estimate of the amount necessary for the coming year. While last year $1,053,990 was allowed by the Board, this year an increase of $346,266 is asked for, making a total of $1,410,256.

Summer Milk Depots' Work.—All the regular summer depots of the Nathan Straus sterilized milk charity in New York City close this week. The present season has made greater demands upon the work than any of the preceding nine years of its existence and a greater quantity of milk has been dispensed. There were thirteen depots open during the season, all situated in the poorer districts of the city, where the need was greatest. There were distributed 770,700 bottles of milk. Besides the bottled milk, more than one million glasses were drunk in the different booths. During the entire winter four depots will remain open.

New French Hospital.—The French Benevolent Society has awarded the contract for the new hospital of the society, which is to be built upon the recently acquired property on Thirty-fourth street, between Ninth and Tenth avenues. The building will be of seven stories, and provide accommodations for one hundred and fifty patients and attendants, besides offices for the association. The society was incorporated in 1819, and the hospital was founded in 1881. It is a non-sectarian institution, and receives no aid from the State.

School for Crippled Children.—The free school for crippled children, 434 West Fifty-seventh street, opened on Monday last with an attendance of forty-six children, the full capacity of the school. Ten of these children are perfectly helpless, but they are brought to and from the school with the others in a wagonette provided by the Woman's Auxiliary to the Guild for Crippled Children of the Poor.

Appointment of Dr. Fischlowitz.—Dr. Gustav G. Fischlowitz has been appointed assistant attending surgeon to the New York Maternity Hospital.

Medical Society of the State of New York.—The Medical Society of the State of New York will hold a semi-annual meeting in Hosack Hall, New York Academy of Medicine, No. 17 West 43d street, New York City, on October 15 and 16, 1901. The titles of papers to be presented are announced as follows: A Contribution to the Pathogenesis of Narcolepsy and other Forms of Morbid Sleepiness, by Heinrich Stern, New York; The Dyspeptic Heart, by James K. Crook, New York; The Official Relation of the Medical Profession to Private Charitable Institution, by Enoch V. Stoddard, Rochester; Cerebral Apoplexy, by Edward D. Fisher, New York; The Causes and Treatment of Epilepsy, by W. P. Spratling Sonyea; Hallucinations: Their Pathogenesis, Clinical Import and Medico-Legal Value, by J. Leonard Corning, NewYork; Note on the Refinement of the Technic of Spinal Anesthesia, by J. Leonard Corning, New York; Tropacocaine in Spinal Anesthesia, by Willy Meyer, New York; Therapeutics and the Drug Manufacturer, by B. W. Loomis, Syracuse; Prolonged Medication, by A. Jacobi, New York; Muscular Atony as the Principal Factor in Uterine Displacements, by Henry C. Coe, New York; A Brief outline of the Surgical Procedure in Tubal Pregnancy, with Report of Case, by H. T. Williams, Rochester; The Treatment of Chronic Endometritis, by Hermann J. Boldt, New York; Some Facts and Fallacies Concerning Pulmonary Tuberculosis, by John H. Pryor, Buffalo; Notes on the Early Diagnosis and Treatment of Pulmonary Tuberculosis, by J. Elwood Stubbert, Liberty; The Association of Pulmonary Tuberculosis with Cardiac Lesions, by J. M. Anders, Philadelphia; Dysmenorrhea, by Matthew D. Mann, Buffalo; Cancer of the Uterus, by William R. Pryor, New York; Abdominal Actinomycosis, with Illustrations and Report of a Case, by Albert Vander Veer, Albany; Old Age as a Factor in the Cure of Hernia, by W. B. De Garmo, New York; Problems in the Management of Tubercular Disease of the Hip, Based upon Records in Private Practice, by Virgil P. Gibney, New York; Mechanical and Oper-

ative Treatment of Hip Disease, and Disease of the Spinal Vertebræ, by A. M. Phelps, New York; The Difficulties Encountered by the Sanitarian in Dealing with Smallpox, by Ernest Wende, Buffalo; The Clinical Symptoms of Advanced Cardiac Disease, of Cases in which the Right Heart is Relatively Most at Fault, by Louis F. Bishop, New York; The Advantages of Stereoscopic Radiography, by L. A. Wiegel, Rochester.

Symposium On Some of the Diseases of the Liver and Bile-Passages: The Diagnosis of Gall-Stones and their Aberrances, by Charles G. Stockton, Buffalo; Courvoisier's Law, by Richard C. Cabot, Boston; The Infections of the Gall-Bladder and Bile-Ducts, M. H. Richardson, Boston; Intestinal Obstruction due to Gall-Stones, L. S. Pilcher, Brooklyn; Technic of Gall-Bladder and Duct Operations, by S. J. Mixter, Boston; Cholecystectomy, by C. L. Gibson, New York; Syphilis of the Liver, by Simon Flexner, Philadelphia; Tumors of the Liver, by G. R. Fowler, Brooklyn.

The Physiological and Clinical Action of Normal Salt Solution, with Indications for Its Use, by W. H. Heath, Buffalo; Medical Aspect of Appendicitis, by N. E. Ford, Utica; Aspiration of Wire Nail, Gangrene, Septic Pneumonia, by Francis Huber, New York; The Etiologic Potency of Heredity in Mental Disease, by Carlos F. MacDonald, New York; The Pathology and Treatment of Migraine, by William H. Thomson, New York; A Few Urinalysis Deductions, by Hamilton D. Wev. Elmira; Method of Incising, Searching and Suturing the Kidney for Stone, by Howard A. Kelly, Baltimore; The Technic of Nephropexy, by Geo. M. Edebohls, New York; Morcellement and Bisection of the Uterus in Complicated Abdominal Hysterectomy, by Willis G. Macdonald, Albany; The Immediate Repair of Injuries of Parturition, by A. L. Beahan, Canandaigua; A Smallpox Epidemic in an Orphanage, by Frederick C. Curtis and H. L. K. Shaw, Albany; Report of a Case of Non-traumatic Perinephritic Hemorrhage, by Arthur Booth, Elmira; Are the Tonsils to be Regarded as One of the Normal Organs of the Body, by F. H. Bosworth, New York; The Early Diagnosis and Treatment of Acute Mastoiditis, by T. H. Halstead, Syracuse; History and Presentation of a Case of Cerebral Abscess Complicating Chronic Otitis Media, by Robert Lewis, Jr., New York; Some Conditions Antecedent to Cancer of the Breast, by B. F. Curtis, New York; Ligation of the Abdominal Aorta for Aneurism, by Robert T. Morris, New York; Observations on the Treatment of Croupous Pneumonia, by J. C. Wilson, Philadelphia; The Clinical Evidence of Myocardial Conditions, by John L. Heffron, Syracuse; A Case of Intermittent Claudication, Terminating in Gangrene, by I. N. Levry, Syracuse; The Present Status of Ophthalmic Science and Art, by D. B. St. John Roosa, New York; The Beneficial Effect on the Eyes from the Use of the Stereoscope, by A. Edward Davis, New York; Glaucoma Simplex and its Treatment, by Peter A. Callan, New York; The Evolution of Typhoid Fever Theories, by Richard Stein, New York.

CHICAGO.

Death-Rate of Children Lower.—The weekly bulletin of the Health Department of Chicago says that there were 483 deaths during the week ended September 7, 1901, this being 32 fewer than during the preceding week, but an excess of 39 as compared with the corresponding period last year. The reduction in the week's mortality, as compared with the week preceding, is due principally to the lower mortality among children under five years of age, the reduction at this division being chiefly attributed to fewer deaths from the acute intestinal diseases, diphtheria, convulsions and infantile marasmus. The continuance of the remarkably low mortality from diphtheria which has prevailed during the Summer months still holds good, there having been but four deaths recorded as due to this disease during the week. With the re-opening of the public schools, however, there has in times past been a marked increase in the contagious disease mortality, especially diphtheria.

Testimonial Banquet to Dr. N. S. Davis, Sr.—The medical profession of Chicago will tender to Dr. N. S. Davis, Sr., the father of the American Medical Association, a testimonial banquet October 5th. Several prominent members of the profession from the outside have been invited to attend, and to make speeches at the dinner, and among them Drs. William Osler, Victor C. Vaughan and John A. Wyeth.

Sterilization of Pencils.—Health Commissioner Reynolds has recommended the sterilization of pencils used in the public schools, and Superintendent Cooley has been asked to submit the matter to the Board of Education. Pencils are distributed at every session and the children habitually put them in their mouths.

Changes at Baptist Hospital.—On account of the resignation of Dr. Reuben Peterson, of the staff of physicians, Dr. Palmer Singley was appointed to fill his place. Dr. Peterson is leaving in order to accept a position at Ann Arbor. Dr. A. E. Halstead and Dr. C. E. Paddock were also appointed members of the hospital staff.

American Academy of Railway Surgeons.—This Society held its annual meeting at the Auditorium Hotel, September 12th and 13th, under the presidency of Dr. D. S. Fairchild of Clinton, Iowa. The following officers were elected for the ensuing year: President, Dr. A. F. Jonas of Omaha, Neb.; First Vice-

President, Dr. L. Sexton of New Orleans, La.; Second Vice-President, Dr. Wm. H. German of Morgan Park, Ill.; Secretary and Treasurer, Dr. T. B. Lacey of Council Bluffs, Iowa; Editor, Dr. R. Harvey Reed of Rock Springs, Wyoming; Committee on Program, Dr. A. F. Jonas of Omaha, Neb., Chairman. Place of meeting, Kansas City; time, to be decided by Program Committee.

Incorporation of Christian Hospital.—The Christian Hospital has been incorporated by Dr. Emma M. Moore and others, with a capital stock of $25,000.

GENERAL.

A Royal Nurse.—The Princess Frederick Augusta, daughter of the Grand Duke of Tuscany and heiress to the throne of Saxony, is now taking a regular course of training in the Lutheran Hospital at Dresden. At her own request no distinction is made between her duties and those of the humblest probationer.

King Edward's Health.—Since his accession King Edward has enjoyed rather better health than formerly, but some anxiety is felt concerning his throat despite the assurance that the local trouble is of a very simple nature.

Epidemic of Baldness in Japan.—There was an epidemic of baldness at Chiba last year, and there has been an even more serious one quite recently at Osaka, the same province, where, as it will be remembered, an extensive epidemic of plague prevailed during the winter of 1899 and 1900. The clinical course of the affection under consideration offers many points of interest, and differs eminently both as regards extent and character from the occurrence of sudden baldness after enteric or any other acute fever. For it is stated that during that epidemic of baldness the loss of hair comes after very little, if any, premonitory warning. The bald patches are irregularly spread over the head, but the first large one generally appears on the crown and extends down the back of the head instead of forward toward the forehead; the opposite of the course of baldness as it is known in America. Another point which may be noticed is that most of the victims of the epidemic are women, and more children are attacked than men.

A Fatal Epidemic in Alaska.—The Rev. Father Rene, of the Alaska Catholic Mission, brings an account of a fearful malady which he describes as an apparent combination of cholera and grip that has caused more than three thousands deaths among the Yukon Indians during the past fall and winter.

Artificial Food for Microbes.—One of the chief difficulties in the chemical study of microbes has been the lack of a standard nutritive medium on which to grow them. A number of special media have been devised for particular bacteria, but no universal food substance suitable for the chemical laboratory has yet been obtained. The difficulty has been to provide the nitrogen which they require in a suitable form. At a recent meeting of the French Academy a note was read from M. Charles Lepierre describing a compound which he believes fulfils many of the requirements of such food. This is mixed with glycerin and small quantities of common salt, magnesium sulphate, calcium glycero-phosphate and bicarbonate of potash. With this mixture M. Lepierre has raised forty-five different microbes, twenty-two of which were pathogenic. Among the latter were the typhoid and cholera bacillus.

Doctor's Winged Messengers.—Dr. Gould, of Rockland, Maine, has a loft of homing pigeons. In practising his profession upon the islands adjacent to his coast, it sometimes becomes necessary to make tiresome and even hazardous trips in small boats. To avoid the unnecessary repetition of these he has fallen upon the plan of leaving pigeons at the homes of his distant patients, and by this means can be daily advised of their progress.

Epidemics in Schools.—At Hempstead, Long Island, scarlet fever has made it necessary to close the public school. The disease is very prevalent and attacks persons of all ages. No definite source of the contagion has been discovered, although the milk supply is suspected.—The Lincoln school, situated at Dunellen, N. J., has been closed on account of an epidemic of typhoid fever.

Smallpox in the United States.—Between June 28th and September 15th of the present year there occurred 9,503 cases of smallpox in this country with 265 deaths. During the corresponding period of 1900 there were reported 3,818 cases with 114 deaths. The distribution of the disease appears to be alarmingly general. A very unusual prevalence of smallpox is also reported from London, where it is credited to the neglect of vaccination.

Pecuniary Damages for Smallpox.—Two physicians of Red Bank, N. J., have been sued for ten thousand dollars by a man and his wife, the latter of whom contracted smallpox while acting as nurse to patients of these gentlemen. In the suit the plaintiffs aver that they were assured by the medical attendants that there was no danger of contagion.

A Function for the Appendix.—Dr. Hershey, of Denver, Colo., has advanced the theory that the appendix has a secretory function, serving as a lubricant to the large intestine, and that any interference with the organ brings about other forms of sickness and a multitude of disorders, including fatal constipation. Dr. Hershey will conduct experiments and report on his observations a year hence.

Progress of the Bubonic Plague.—Except on the island of Formosa the plague appears to be under control throughout China and

Japan. In the Philippines, however, a moderate number of cases are weekly reported among the Chinese and natives, although American soldiers are occasionally included among the victims. Deaths are reported in Siam, Mauritius and Cape Colony, while from British India, particularly in the neighborhood of Bombay, an appalling death-rate continues. Constantinople is still infected.

Novelties in Baths.—The mud baths so much in vogue at St. Amand-les-Eaux and elsewhere on the Continent are too well known to be considered new or unusual, but the invigorating effects of the wine bath are not so generally appreciated even by the wealthy. Bathing in milk, veal-broth or the yolks of eggs for the supposed influence upon nutrition is practised from time to time by the eccentric. The snow bath recommended by an athletic member of the Northwestern University at Chicago cannot be accused of having the element luxurious effeminacy which might be thought to characterize those already mentioned. This balneal diversion is only enjoyed in winter and is carried out by its advocates preferably just before retiring. After divesting oneself of all clothing, a longer or shorter time, "according to taste," is spent rolling about in the nearest snowdrift.

The Doctor in Fiction.—It would seem that it is impossible for the novelist to touch upon things medical without falling into error. Mr. Hall Caine, who gave us an impossible nurse in "The Christian," gives us a still more impossible medical man in his last novel, "The Eternal City," which has just been published. In the chapter entitled "The Roman of Rome," he describes how a practitioner examined the breast and axilla of a patient and, finding cancer, declared that a nurse must be summoned immediately. Further on, in speaking of the case, he is made to say that if the diagnosis had been made earlier *nephrectomy* might have saved the patient, but, as it was, the case was beyond surgical aid.

Operation was Necessary.—A distinguished specialist in abdominal troubles in London, speaking about President McKinley's case, said the best surgeons in Europe were unanimous in asserting that the operation was the right and the best thing that could have been done, and that the President would have died in forty-eight hours had it not been performed.

Foreign Comments.—The *British Medical Journal*, discussing the results of the autopsy says it is needless to assign any influence to the escape of pancreatic secretions or to a poisoned bullet, because the mechanical conditions "amply account for all disturbances found." The journal testifies to the high rank of American surgery and says: "Success in such a case would have been a triumph, and defeat is not disgrace."

Nerve Nostrums.—Dr. Wm. P. Spratling, of Craig Colony for Epileptics, Sonyea, N. Y., is preparing, by request of Dr. George F. Butler, Chairman of the Section on Materia Medica, Pharmacy and Therapeutics, of the American Medical Association, a paper on "Nerve Nostrums and Their Dangers" for the June, 1902, meeting of the American Medical Association, and he would be glad to have physicians and others send him any samples or literature of such nostrums coming under their notice, or tell him of them and where they may be procured.

No Dissension.—That certain of the daily papers should have persistently exhibited a disposition to disturb the harmony among the surgeons and physicians connected with Mr. McKinley's case, cannot be regarded otherwise than unfortunate by any who hold in proper respect the dignity and good name of the profession. It is particularly regrettable that any medical man should have lent his name to such efforts. Under the circumstances we are not surprised that the following statement has appeared:

"We desire to say to the press and the public, once for all, that every such publication and alleged interview with any of us containing criticism of one another or of any of our associates, is false and is nothing but scandal mongering. We say again that there was never a serious disagreement among the professional attendants as to any of the symptoms or as to treatment of the case or as to the bulletins which were issued. A very unusual harmony of opinion and of action prevailed all through the case.

"The unfortunate result could not have been foreseen before the unfavorable symptoms declared themselves late on the sixth day, and could not have been prevented by any human agency.

"Pending the completion and publication of the official reports of the postmortem examiners and of the attending staff, we shall refuse to make any further statements for publication, and alleged interviews with any of us may be known to be fictitious.

"MATTHEW D. MANN, ROSWELL PARK,
"HERMAN MYNTER, EUGENE WASDIN,
"CHARLES G. STOCKTON."

Obituary.—Dr. William McKinley, a well-known practising physician and a distant relative of the late President McKinley, was found dead at his home, at Polk, Pa. On Saturday Dr. McKinley was in Franklin, and with much emotion discussed the shooting and death of the late President with friends. He was of a highly nervous disposition and at different times during these discussions he became greatly excited over the assassination. In the evening he returned to Polk and a few hours after his arrival there his dead body was found by a member of the family lying on the ground in the rear of his residence. The phy-

sicians who were summoned said that death was due to apoplexy, brought on by the excitement of the day. Dr. McKinley had an acquaintance with President McKinley, and was one of his warmest admirers. He was a graduate of the Baltimore Medical College and forty-four years of age.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

London, Sept. 7, 1901.

A ROYAL COMMISSION ON TUBERCULOSIS—THE COMMISSIONERS—PROFESSOR KOCH AND THE BRITISH COAST.

A third Royal Commission has been appointed for the investigation of the tuberculosis question. This is the direct outcome of Koch's sensational deliverance at the recent Congress. The Commission is to inquire and report whether tuberculosis in animals and in man are one and the same disease; whether animals and man can be reciprocally infected with it; under what conditions, if at all, the transmission of the disease takes place, and what are the circumstances favorable or unfavorable to such transmission. There are five Commissioners, all members of the medical profession, though one of them is a representative of veterinary science. The University of Cambridge is represented by Sir Michael Foster and Professor Woodhead; no other university in the Three Kingdoms is represented. Professor Sidney Martin of University College of London, naturally finds a place on the Commission, as it was largely on his experimental work that the report of the last Royal Commission as to the dangers of the consumption of tuberculous meat and milk was based.

Dr. John McFadyean is our greatest authority in this country on veterinary pathology, and Professor Boyle, of Liverpool, is in the sphere of pathology as "pushful" as Mr. Chamberlain is in politics. Sir Michael Foster is a physiologist, and, as far as I know, has given no special attention either to tuberculosis in particular or to pathology in general. But he is a fine ornamental figurehead, and being at once head and indeed part creator of the medical school of Cambridge, Secretary (which virtually means "boss") of the Royal Society, and a Member of Parliament; he is a personage of great importance. He speaks well, and is really an able man, though he looks at the world a little too much through academic spectacles. Professor Woodhead is an industrious worker, whose name is not associated with any great original discovery; but he is a teacher of very marked capacity and has studied tuberculosis from all points of view for many years. On the whole, it is in a scientific sense a strong Commission, but unfortunately the problems of pathology cannot be solved even by Commissions issued "under the King's Royal Sign Manual." There are among the constituent element on the Commission certain factors which may impair the value of its findings. Thus, one of the Commissioners has already shown that he does not approach the question in that spirit of absolute impartiality which the investigation of a scientific question demands by declaring that the organizers of the Tuberculosis Congress should never have allowed Koch to read his paper!

I see it is stated by a writer in one of your contemporaries that Koch, after shooting his bolt, "evaded the result" by leaving the arena. That is Koch's way. His words are to be accepted with the faith demanded of the subjects of an infallible oracle. But when your contemporary goes on to attribute to disinclination to defend his position, Koch's avoidance of social entertainments and in particular his absence from the group of delegates presented to the King he goes somewhat astray. Koch is, owing to circumstances that need not be referred to, rather an outsider from the social point of view, and it is understood that the German Court did not recommend him for any special attention on the part of Royalty here.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

THE MENINGOCOCCUS OF WEICHSELBAUM—INTOXICATION BY DYES IN SHOES—METAMERIC ZONE OF THE LOWER EXTREMITY—LEUCOCYTOSIS OF MEASLES—LESIONS IN THE TERMINAL SPINAL CORD FILAMENTS—HYSTERICAL PSEUDOMENINGITIS—THE KIDNEYS AND TUBERCULOSIS—SENSIBILISATRICE IN TYPHOID SERUM—THE BACILLUS TUBERCULOSIS AND THE FECES.

M. Landouzy, at the Académie de Médecine, July 30, 1901, read a report on the experimental transmission of the meningococcus of Weichselbaum by the respiratory channels. The meningococcus was found in the mucous nasal discharges of five soldiers who were suffering from epidemic cerebrospinal meningitis. Inoculations with this mucus were made in the nasal cavities of five guinea-pigs and three rabbits. All eight of these animals became sick and five died. In the cerebrospinal fluid of these free meningococci were demonstrated. Again inoculations from the nasal mucus of this set of animals upon an other set resulted in death and the recovery of this meningococcus in pure culture from their cephalorachidian fluid. Likewise the depositing of some of the cerebrospinal fluid from one of the deceased soldiers upon the nasal mucous membrane of a rabbit and three guinea-pigs resulted in causing the same series of symptoms as in the other lots of animals and in the death of two of the guinea-pigs. In the spinal fluid of these the meningococci were again freely present.

M. Landouzy also read a communication in the name of M. Lop (Marseilles) relative to a peculiar example of poisoning by dye-stuffs as

employed to color leather. His patient was a young boy who having bought a pair of yellow boots determined to dye them black. The evening of the first day of wearing them he was seized with grave symptoms, cramps in the calves, nausea, vomiting, hypothermia, cyanosis of the face and extremities, anuria, etc. Upon careful investigation it was evident that these symptoms were all due to intoxication by the dye, aniline in character, he had used in coloring his shoes. This observation is analogous to that presented to the Academy by Landouzy himself about one year ago. Together they serve to emphasize the dangers inherent in employing dyes on the shoes and might suggest the propriety of bringing the matter to the notice of the proper authorities.

M. WIDAL, at the Société Médicale des Hôpitaux, July 26, 1901, noted an observation of the metameric zone of the lower extremity in collaboration with M. Le Sourd. The woman was forty-nine years old and the right thigh was affected. The vesicles were arranged for the most part in transverse bands, extended in front from the groins almost to the knee and from the popliteal space almost to the lumbar region behind. Examination of the cephalorachidian fluid demonstrated numerous lymphocytes, just as in the cases reported at a previous meeting by M. Brissaud and M. Sicard. The facts argue strongly for the existence of some medullary changes which involve also the pia mater. Because it is well established to-day that a purly ganglionic change could not produce these changes in the cephalorachidian fluid. Bacteriologically this fluid was sterile, as all inseminations upon culture-media gave no growth.

M. J. GOURMONT (Lyons) addressed a note in the names of Montagard, Pehu and himself relative to the special type of leucocytosis present in measles, with definite reference to distinguishing the rash of measles from that of variola. According to these writers measles is accompanied by a slight hyperleucocytosis, which is augmented as soon as any complications occur, purely of the polynuclear cells. They have not yet observed myelocytes, nucleated red cells nor mononuclear leucocytes. On the other hand the eosinophile cells are decreased in comparison with the normal number for children, which distinguishes the disease from scarlatina, if the observation be true, because scarlatina is manifested by an increase in the eosinophile cells.

M. HIRTZ gave the history of a young man, thirty years old, who died of pulmonary tuberculosis, with decided uremic symptoms, consequent upon an albuminuria. The autopsy showed a large cavity at the apex of the right lung, and the kidneys white, lardaceous and upon microscopical view in a very marked degree of amyloid degeneration.

M. WIDAL and M. Le Sourd, at the Société de Biologie, July 29, 1901, presented a collaboration dealing with the presence of *sensibilisatrice* in typhoid serum. The special point they sought to demonstrate is the day at which it appears in the blood of guinea-pigs, inoculated beneath the skin with a culture of the bacillus typhosus. The method of fixation was that employed by M. Bordet. In two animals the *sensibilisatrice* appeared on the fifth day accompanying the phenomenon of agglutination. In a third animal it preceded the latter by one day. Among the human patients at their disposal they always found the two phenomena, agglutination and fixation co-existing. In not one case were they dissociated and always were present in the earlier days of the disease. In one patient they appeared as late as the sixth day. Otherwise both existed before that time. A dissociation of these two signs can, however, be clinically found. For example in one patient who had fully recovered from a mild degree of typhoid fever, the agglutination property in his blood had disappeared four months after his convalescence, but the fixation property was still present. In another patient who had already had three relapses of the disease both of these signs were beautifully marked, and that of fixation was the most distinct they had yet seen. A dilution of 1-300 still gave agglutination, Yet four days later a fourth relapse took place with all the typical signs and symptoms. Such a fact appears to demonstrate that immunity does not co-exist with the sign of fixation.

M. ANGLADE (Aleneon) stated that he has been investigating the alvine dejections of tuberculous patients and has found them a large avenue for the elimination of the bacillus, alike in those who have pulmonary as in those who have intestinal tuberculosis.

SOCIETY PROCEEDINGS.

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Stated Meeting, Held May 25, 1901.

The President, Howard Lilienthal, M.D., in the Chair.

Advance in Knowledge of Gonorrhea.—Dr. Frederick R. Sturgis read a paper on recent advances in knowledge of the pathology of gonorrhea, with special reference to the question whether the disease should not really be considered a constitutional affection with a local manifestation. He said that formerly it was thought that gonorrhea was an absolutely local disease. It was the custom, too, to consider it as a rather mild form of inflammation that ran a definite course and left no serious sequelæ after it. The question of the significance of complications of the disease was not so clear. Serious complications were known not to be rare, though they were considered to be only passing in their effect.

Systemic Infection.—Of late a good deal of material has been accumulated with regard to the systemic involvement in many cases of gonorrhea. Generalized infection means absorption of

septic material from some localized focus containing pyogenic micro-organisms. There is now no doubt in the minds of most physicians that absorption of this kind takes place during the course of gonorrhea and that it produces constitutional symptoms in a goodly proportion of cases.

Manner of Auto-infection.—It has been known for some time that the gonococcus readily attacks circumjacent tissues. It spreads by continuity of tissue as well as by contiguity. It was not thought, however, that it produced generalized infection. It was known that it affected the joints and the eyes, but these processes were called metastatic. Over a hundred years ago John Hunter thought that, as gonorrhea attacked joints, so it also affected the endocardium. His idea met with no general acceptance, however, and Trousseau combated the idea of gonorrhea wandering in this way. About the middle of the century a number of cases were reported that pointed clearly to the fact that gonorrhea might produce a sort of pyemia. It was not, however, until Neisser's discovery of the gonococcus and Bumm's description of the method of cultivating it that any trustworthy investigation could be carried out.

Organs Affected by Gonococcus.—It is now known positively that most of the organs of the body can be affected by the gonococcus. It has been found in the kidney, producing pyelonephritis in the pus of which a pure culture of the gonococcus has been demonstrated. It has been found in the coverings of the brain, producing severe serous meningitis and also purulent affections of the meninges. It has been found in the intramuscular tissues with tendencies to produce abscess. It is well known that rectal infections by the gonococcus may of themselves, or by the secondary infection which they favor, lead to very serious ulcerative conditions of the rectum. Finally, the gonococcus has been found in the spleen, in the periosteum of the bone and even free in the circulation. In a word, no tissue or organ is exempt from invasion by the micro-organism that only a few years ago was considered to limit its ravages to the specialized mucous membrane of the genito-urinary tract and the conjunctiva.

Mixed Infection.—It has often been claimed that the secondary symptoms and complications and many of the sequelæ of gonorrhea are really not due to the gonococcus itself, but to various pyogenic organisms which find a favorable occasion for entrance into the tissue, because of the presence of the chronic inflammatory lesions produced by the gonococcus. The staphylococcus was thought to be the most frequent secondary infective agent and its presence has been shown in a number of these cases. There is no doubt, however, that, while the gonococcus predisposes to secondary infection, it can of itself in pure culture produce serious pyogenic conditions. Prof. Finger of Vienna in 1895 showed that malignant endocarditis may be caused by pure cultures of the gonococcus alone. He demonstrated the presence of the gonococcus on the valves of the heart in pure culture by staining and culture methods.

Subsequent Confirmation.—Within a year or two after the announcement of his discovery, Finger's conclusions in this matter were substantiated by investigations at Johns Hopkins Hospital. Thayer and Lazear demonstrated the presence of gonococci in pure culture in a tricuspid lesion of the heart. A little later Brantford Lewis showed that the only organism to be found in a case of pyelonephritis under his care was a biscuit-shaped diplococcus which had all the characteristics of the gonococcus. It grew well only on urine agar and it conformed to the Gram test. This case had been considered one of malaria, because of the regularity with which the chills recurred from day to day. The patient strenuously denied ever having had gonorrhea.

Secondary Infection.—Dr. Arpad Gerster in a case of septicemia originating in a kidney abscess found staphylococci and gonococci in the kidney pus. It seems easy to explain the presence of gonococci in the kidney by claiming that it spreads by continuity of tissue, the micro-organism finding its way through the bladder and ureter to the pelvis of the kidney. In most of these cases, however, there have been absolutely no symptoms of bladder or ureteral disturbance and it seems more reasonable to suppose that the kidney infection has taken place either through the lymph-channels or perhaps directly through the blood during an effort of the kidney to eliminate the micro-organism from the circulation.

Brain and Spinal Symptoms.—In most of the cases where there have been brain and spinal symptoms, it has not been clear that there was direct infection of any of the structures in or around the nervous system by the gonococcus. Symptoms seem to have been produced either by mixed infection or by the toxins in the circulation absorbed through some focus of gonococci at a distance from the nervous system. In Fuerbringer's case there were distinct epileptic attacks that seemed to be traceable to gonorrheal influences.

Nervous Lesions.—Fuerbringer's case is interesting because it exemplifies exceptionally serious conditions. The patient when admitted complained of pains in his head and abdomen and was restless and sleepless. He was strong and well built, his pupils were dilated and his optic papillæ were found somewhat congested. A short time after admission he complained of a stiff neck and became very restless, wanting to be continually in movement. He had on admission an acute urethritis with a profuse discharge of yellowish purulent material. Lumbar puncture was performed and about 20 cubic centimeters of purulent fluid were evacuated from the spinal canal. In the cells of this purulent fluid diplococci were found resembling gonococci in all bacteriological peculiarities. The patient became comatose and death took place the next day.

Postmortem Findings.—At the autopsy the spinal cord was found surrounded by purulent fluid and the pia mater of the brain was congested with pus. There was marked edema of the nervous tissue and to this evidently most of the nervous symptoms could be referred. Bacteriological examination of the pus obtained after death gave the same results as in that obtained by lumbar puncture. The diplococci found were thought to be gonococci. Some doubt, however, was expressed as to whether the micro-organism might not possibly be the meningococcus intracellularis of Weichselbaum. This micro-organism is generally accepted as the cause of epidemic cerebrospinal meningitis. Sporadic cases of this disease may be seen almost at any time, especially in European cities.

Cutaneous Infection.—The skin seems to be very little liable to infection by the gonococcus, yet some cutaneous and subcutaneous lesions have been noticed. Petechiæ, for instance, have been described as occurring in some cases and purpura of the lower limbs has been reported. Hematuria and even epistaxis have at times been attributed to the presence of gonococci, though usually there has been mixed infection of staphylococcus albus. In one case an indurated, red, pointed blotch occurred in the skin during the course of a series of relapses of gonorrheal arthritis.

Septic Conditions.—There is little doubt in most minds now that septic conditions can be produced by the presence of gonococci alone. In some unknown way the presence of gonococci in any part of the body seems to favor the occurrence of mixed infection. This it is that makes the definite etiology of lesions that occur during the course of gonorrhea so difficult to settle. As a rule, one should not speak of gonorrhea, but of gonococcal infection.

Gonococcal Toxins.—There is supposed to be a toxin produced by the growth of the gonococci the absorption of which causes certain of the constitutional symptoms familiar in gonorrhea. This toxin has, however, never been demonstrated and its existence is entirely hypothetical.

Avenues of Systemic Infection.—There are two ways by which the gonococci can find an entrance into the system, namely, through the blood-stream and through the lymphatic current. Spread of the gonococci through the lymphatics is well established. The occurrence of buboes in the inguinal glands is usually due to mixed infection, but in a certain number of cases a pure culture of diplococci with all the bacteriological characteristics of gonococci have been found. Often when other pus micro-organisms can be demonstrated gonococci are also present.

Generalized Infection.—Since the occurrence of gonorrheal arthritis and gonorrheal endocarditis makes it clear that gonococci can be transported by the blood-stream, the only rational conclusion is that constitutional infection by the gonococci is not so rare as it has been thought. It has been demonstrated that gonococci may occur in pure culture within the heart or in the arterial blood. It may not be said, perhaps, that it is a constitutional disease with a local manifestation, but it must be admitted that, while mainly a local disease, it is capable of producing systemic disturbances and may become generalized.

Latent Infections.—Dr. Robert H. Greene said that a much larger proportion of cases of gonorrhea than has been hitherto imagined have prostatic infections. These escape detection for the most part. Gouley found granulomatous processes in the prostate, the result evidently of chronic inflammation extending over a long time, in cases where there had been practically no symptoms of such a condition. Undoubtedly there are cases in which constitutional symptoms are noticed very early in the course of the disease. At times, too, these constitutional symptoms are noted without any serious preliminary symptoms of the disease. The primary acute stage is entirely latent and there is an insidious involvement of other parts because of infection through the lymphatics.

Influence of Soil.—Dr. Eugene Fuller said that undoubtedly gonorrhea starts as a local infection and should be considered as such. The tissues of certain individuals, however, make an especially favorable soil for the growth of the gonococcus and so the whole system may become infected. In some individuals there is very little resisting power to gonococci invasion. Many of the complications, especially those at a distance from the original focus of disease in the urethra, seem to him to be due to mixed infection. The cause of the complication is really some other micro-organism that finds a favorable opportunity for entrance through the lesions produced by the gonococcus. It has always seemed to Dr. Fuller that the gonococcus is only an incident in the serious complications and sequelæ that sometimes occur.

Lowering of Resistive Vitality.—It seems not improbable that the presence of the gonococcus and of its toxins in the system may lower resistive vitality very much. It is now well known that people stung by snakes, when they escape the acute effects of the snake poison, may die of general septicemia sometime afterward as the result of the invasion of pus micro-organisms, the snake poison having robbed them of all resisting power. Most men in the special practice of genito-urinary diseases have seen some of the cases in which the patient seemed to be robbed completely of resisting power. They are very severe cases and usually are well impressed upon the physician.

Fulminant Case.—Dr. Fuller gave the details of a typical example of these fulminant cases. The patient was a large, strong, healthy man who had an attack of gonorrhea in an early stage. In the course of attendance on business he was obliged to go West. He did this all the more readily as he did not care to explain his condition to his wife. While on the train at Pittsburg he had a severe chill and high fever de-

veloped. He became delirious and his temperature was found to be above 104° F. He was removed to a hospital. His endocardium became affected, both kidneys became involved and severe arthritis of the shoulder-joint developed. He came out of this acute attack a wreck. He has improved greatly, but there is still albumin in his urine and his shoulder is somewhat stiff.

Significance of Such Cases.—Undoubtedly such attacks shorten life. They remind one of nothing so much as the fulminant puerperal septic conditions that sometimes develop without explicable cause after delivery. They run an almost exactly similar course, they submit the patient to the same serious risks and they are apt to leave the same annoying sequelæ. The cause for the infection seems to be the predisposition produced by the lowering of resistive vitality.

Gonorrhea Local in Women.—Dr. Egbert H. Grandin said that in gynecological practice one does not see the constitutional symptoms of gonorrhea as frequently as they seem to occur in the practice of specialists in diseases of the male. The gonococcus in woman seems to spread always by continuity, most frequently from the vagina to the cervix and then to the uterus and tubes and, finally, to the ovaries, with an occasional involvement of the peritoneum; or it spreads from the urethra to the bladder and thence to the ureters and kidneys. One sees chronic gonorrhea often enough and would expect to see systemic infections, if the gonococcus were prone to produce constitutional involvement. In woman at least this does not seem to be the case very often.

More Suitable Terms.—Dr. Reynold W. Wilcox said that the question presented for discussion by Dr. Sturgis was very timely. He hoped that it would enable us to get rid of the term "gonorrheal rheumatism," since arthritis complicating gonorrhea is in no sense of the word rheumatic. It used to be said that the differential diagnosis between gonorrheal rheumatism and acute rheumatic arthritis could be made from the fact that in gonorrheal arthritis no heart complications occur. It was also said that gonorrheal rheumatism was usually mono-articular. One of the worst cases of generalized arthritis that Dr. Wilcox has ever seen was gonorrheal in origin. Nearly every joint of the spinal column was affected and, as some ankylosis ensued, the patient became distinctly kyphotic.

Second Attacks of Syphilis.—Dr. Wilcox requested permission to ask a question with regard to second attacks of syphilis. A young lawyer some eight or nine years ago was treated for syphilis. He had a typical chancre and secondary symptoms and antisyphilitic treatment was continued for about two years. He remained for over six years without a lesion of the disease. About six weeks ago he contracted a discharge that seemed to be gonorrheal in character. After a time this improved and about three weeks after exposure he developed a typical chancre. Since then he has had a general roseola together with headache, feeling of general malaise and some temperature. His symptoms all point to a second attack of syphilis. While, of course, such cases have been reported a number of times, Dr. Wilcox wished to know if they were at all frequent in ordinary genito-urinary practice.

Status of the Gonococcus.—Dr. Follen Cabot said that the bacteriological status of the gonococcus is yet not entirely settled. Very few doctors are willing to take the responsibility of deciding with assurance on the absence of gonococci when there has once been an attack of gonorrhea and the patient thinks of marriage. Even after two or three examinations the bacteriologist is apt to be non-committal in his declarations.

Cultural Differences.—Dr. Cabot said that Dr. Dora Williams has found many cultural differences even between apparently genuine forms of the gonococcus. Certain gonococci grow readily on two-per-cent. agar. Others grow poorly at first, but learn to grow well on this culture medium after having passed a number of generations on it. Certain others fail to grow at all. After transference from one batch of medium to another the gonococci are apt to grow spasmodically, sometimes they grow well, sometimes poorly, sometimes not at all. Even the most vitally active forms can not be depended on to grow with regularity. Whether such cultural characteristics in the micro-organism are sufficient to constitute types of gonococci, or are only unimportant peculiarities dependent on unessential qualities further study along this line will show definitely.

Old Time Infectious Discharges.—Dr. Cabot has recently had under his care a man who had been married for fifteen years, who absolutely denied any possibility of infection outside of the conjugal relations. About four or five days after conjugal relations a discharge began, not severe at first, but which lasted for several weeks and then yielded only to antigonorrheal treatment. In the discharge there were found diplococci resembling gonococci, but it was practically impossible to say that they were surely gonococci. We are not in a position as yet to settle such a question with absolute assurance by bacteriological methods.

Diplococci in Spinal Fluid.—Dr. R. J. Wilson said that in a recent case he found a diplococcus in the spinal fluid. This diplococcus was not unlike the meningococcus intracellularis of Weichselbaum. There was in the case a malignant endocarditis and cultures taken from the blood showed the presence of a corresponding micro-organism in the circulation. Severe arthritis developed and from the arthritic fluid micro-organisms were obtained which grew on ordinary agar and ordinary bouillon. Only a few delicate colonies were obtained and these were transferred to blood serum. They were found to be composed of diplococci which stained as gonococci, but grew on ordinary agar. As a consequence it was thought at first to be a meningococcus, but later on was thought to be a gonococcus. The

cultures on agar died out and no further history could be obtained.

Diplococci and Malignant Endocarditis.—In a patient under observation two years ago, malignant endocarditis developed and lasted for five weeks. Fifteen cubic centimeters of blood were taken for culture purposes, but without result. At a second culture attempt diplococci were obtained which grew on glucose peptone. The urine was then examined and cultures taken from this fluid. Other bacteria were present, but diplococci not unlike gonococci were also obtained. Pleuritis came as a complication in this case and sixty to seventy ounces of fluid were removed. Chronic diffuse nephritis was also found to exist. The physical signs of an aneurism developed over night. A number of petechæ occurred around the point whence the blood had been taken. Purpuric spots occurred on the trunk and arms.

General Infection from Gonococci.—When Thayer made his discovery of gonococci upon the heart valves it was thought that a number of these cases would be found. This expectation has not been fulfilled. Undoubtedly the gonococci do produce a systemic infection, but it is extremely hard to find them in pure culture. One cannot make any definite conclusions, as yet, as to whether the systemic infection is as a rule due to the gonococcus alone, or to mixed infection.

Analogy with Surgical Sepsis.—Dr. Howard Lilienthal said that undoubtedly gonorrhea may become constitutional, just as acute surgical infections find their way into the system. This is not apt to occur so rapidly from gonorrhea as in the infections by more distinctly pyogenic organisms. There are distinctions, of course, in the virulence even of the frankly pyogenic microbes. Staphylococci usually produce local thrombosis of a vein and then, from the clot thus formed, find their way into the blood. This produces the metastatic condition, the basis of septicemia. Streptococci act similarly, but more virulently.

Meddling with Urethra.—Dr. Lilienthal is of the opinion that uncalled-for meddling with the urethra often proves a fertile source of the generalization of gonococcal infection. The cutting and stretching of strictures, except where it is absolutely necessary, should only be done with the greatest care. Injury may mean the production of metastases. There should be very little direct treatment of an acute gonorrhea in order to avoid even the slightest trauma of the urethra at a time when the gonococci are virulent, or when secondary infective material is present with the gonococci.

Pyemic Poisoning.—Dr. Sturgis in closing the discussion said that undoubtedly quite often during the course of a gonorrhea a pyemic poison develops which is due at times to the presence of a mixed infection and at times to a pure culture of the gonococci. There remains the question, Is there a pseudogonococcus—a double of the microbe producing ordinary gonorrhea and which has under certain conditions a special virulence? Has this organism practically the same morphology as the gonococcus, and does it resemble it so closely as to be mistaken for it, as in Fuerbringer's case? There seems at times to be toxic symptoms in patients suffering from gonorrhea that can only be attributed to the presence of ptomains in the circulation due to absorption of the products of gonococcal growth at the point of local inoculation. This theory of a special toxin would account better than any other for certain symptoms the source of which is not at present understood.

Second Attacks of Syphilis.—Dr. Sturgis is of the opinion that second attacks of syphilis are not so rare as they are sometimes thought. It is probable that reinfection took place in Dr. Wilcox's case. Dr. Sturgis has had two cases in which he felt sure that a second attack took place. In the history of these cases it is usually a noteworthy fact that the first attack is very light. Mild syphilis seems not to communicate much immunity.

Dr. Eugene Fuller said that he had seen at least two cases in which he felt sure that second attacks of syphilis had taken place. It is, however, a rare condition. Some years ago he saw an English traveler who claimed to have had a primary sore while in India and less than a year afterward another primary sore while in China. It is probable that this second sore was really nothing more than a mucous patch on the foreskin.

Epithelioma of Penis.—Dr. Hawkes presented a specimen of an epithelioma of the penis for which the whole organ had been removed. The first sign of the affection was a small nodule under the foreskin. This was hard and presented some diffuse induration. It made the foreskin non-retractile. Circumcision was recommended and performed. A similar nodule appeared afterward on the scar of the circumcision wound and later at the meatus. The inguinal glands became involved; these were removed, but their involvement proved to be only inflammatory in character. There is every reason to hope that the cure will be radical.

Dr. Grandin suggested that more careful investigation should be made as to the origin of such epitheliomata, especially as regards the possibility of infection from an epithelioma of the cervix in the patient's wife. He has seen some cases that led him to suspect this etiology of penile epitheliomata.

Very Large Prostate.—Dr. Fuller presented a very large prostate which he had removed by the suprapubic method, splitting the mucous membrane of the bladder at the trigone and shelling it out. Though this tumor was so large and the operation was done only six days ago, the patient is convalescing without incident.

Dr. Howard Lilienthal said that in removing large prostates he has found Dr. Fuller's suprapubic method very satisfactory. There is very little risk, the operation is clean and done under the eye, and the convalescence is reasonably rapid, while the results are eminently satisfactory.

BOOK REVIEWS.

Progressive Medicine. A Quarterly Digest of Advanced Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Vol., II. June, 1901. Lea Brothers & Co., Philadelphia and New York.

Progressive Medicine continues to maintain the same useful characteristics which have made it an indispensable feature in the physician's library. It might be termed a series of critical digests of contemporaneous medical research. The present volume comes from four authors. Dr. W. B. Coley presents the advances made in the surgery of the abdomen, including hernia; Dr. John G. Clark, those new procedures and advances in the sphere of gynecology; the diseases of the blood and ductless glands; the hemorrhagic diseases and diseases of metabolism are splendidly handled by Dr. A. Stengel, and the subject of ophthalmology is covered in a complete and thorough manner by Dr. Edward Jackson. In Dr. Coley's article, in addition to the critical and collected résumé of the literature on abdominal surgery, particular attention has been given to the subject of the surgical treatment of malignant diseases of the intestines and rectum. The illustrative features of this section are excellent. Dr. Clark has given an excellent review of his own investigations on the ovary in the section devoted to gynecology.

We know of no publication in the English language that fulfils the objects so well as this. As a suggestion to the publishers, we believe that in the index, it would be an excellent feature to refer to previous volumes in which the last résumé of the subject was treated. In this manner the student can easily refer back, without loss of time. The absence of this system of back referencing, and the time lost by the reader in trying to find his subject are factors which, with increase in the number of volumes, deter many from starting a system of this type.

Atlas and Epitome of Labor and Operative Obstetrics. By Dr. Oskar Schaeffer, Privat Docent in Obstetrics and Gynecology in the University of Heidelberg. Authorized Translation from the Fifth Revised German Edition. Edited by J. Clifton Edgar, A.M., M.D., Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College. W. B. Saunders & Co., Philadelphia and London.

What has been said of the preceding volume can only be repeated in regard to this. Since there is no branch of medicine in which demonstration is so difficult as midwifery, a series of excellent plates such as abound in this book are next to actual bedside and amphitheater instruction, an absolute necessity to the student, especially since the criticism may be made that the usual text-books are too verbose and lacking in suitable illustrations. The plates in the first part of the work picture admirably the various presentations and positions during the different stages of labor, while in the second part the different operative procedures are clearly shown.

The Retrospect of Medicine. A Half-Yearly Journal Containing a Retrospective View of Every Discovery and Practical Improvement in the Medical Sciences. Edited by James Braithwaite, M.D. Consulting Obstetric Physician and Surgeon to the Leeds General Infirmary; Late Lecturer on Diseases of Women and Children, Leeds School of Medicine, etc., and E. F. Trevelyan, M.D., B.Sc., F. R. C. P., Assistant Physician to the Leeds General Infirmary; Professor of Pathology, Yorkshire College, Leeds. Vol. 123, January to June, 1901. Simpkin, Marshall, Hamilton, Kent and Co., Limited, London.

During the greater part of its sixty-two years of publication, Braithwaite's retrospect has been the source from which the British and American practitioners have drawn their information of what was being done in fields of medical science. But nowadays, the medical weeklies and monthlies provide the abstracts for which the "Retrospect" has been noted; so the editor, feeling that there is no longer need for his book, will publish no further volumes. The present issue contains, as usual, abstracts of a well-selected series of articles from British, American and continental journals. These are grouped under the headings of nervous system, digestive organs, etc. The book is of handy size so that it may be carried about, and is replete with articles of interest to the medical man. We cannot but feel regret that its publication is to cease.

A Practical Treatise on Diseases of the Skin for the Use of Students and Practitioners. By James Nevins Hyde, A.M., M.D., Professor of Skin, Genito-Urinary and Venereal Diseases, Rush Medical College, Chicago, etc., and Frank Hugh Montgomery, M.D., Associate Professor of Skin, Genito-Urinary and Venereal Diseases in Rush Medical College, Chicago, etc. Sixth and Revised Edition. Lea Brothers & Co., Philadelphia and New York.

The fact that one year has sufficed to exhaust a larger edition than was ever before published led to a thorough revision by the author and speaks well for the increasing favor in which their work is held. Following chapters on the Anatomy and Physiology of the Skin, General Symptomatology, Etiology, etc, the various diseases are discussed, the classification of Hebra being still adhered to as most practical for the student, though not sufficiently scientific for the expert. Among the diseases which have been rewritten are acne, herpes, psoriasis, scleroderma, tuberculosis, blastomycosis and carates, and the discussions on pathology have been brought up to the present day. The illustrations, printing and binding also deserve most favorable mention and we wish the book further well-deserved success.

THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

A CONTRIBUTION TO THE SURGICAL RELIEF OF CANCER OF THE RECTUM: REVISION OF THE STATISTICS TO DATE, WITH SPECIAL REFERENCE TO SACRAL EXTIRPATION.*

BY FRANK LE MOYNE HUPP, A.M., M.D.,

OF WHEELING, W. VA.,

ATTENDING SURGEON TO THE CITY HOSPITAL.

SOME one has well said that the best doctors still try to "give Nature a chance." This should be true, yet the ablest surgeons of our time no longer hesitate to cut out from the internal economy of man all organs save the heart and brain. Gastrectomy was done by Schlatter, and the world marveled at his work. The chondroplastic method of pericardotomy with suture of the heart muscle is no longer fancy, but fact. Lilienthal extirpates the entire colon, the sigmoid and four inches of the ilium for hyperplastic colitis, and his patient lives to tell the tale.

Sarfert stays the ravages of the tubercle bacilli, with its resulting hectic fever and hemoptysis, by draining the multiple abscesses in the lung's apex.

Lange excised seven inches of the rectum after removing part of the sacrum and simultaneously through the yawning wound delivered an extensively adherent, multilocular ovarian cyst, the size of a child's head. Thus, in many ways the beginning of the twentieth century points out marked effort and improvement in the surgical means of alleviating suffering and saving life.

Cancer Defined.—In old St. Paul's churchyard, London, in the year 1751, Robert Brookes printed a book on the subject of physic, which contained the following definition: "A cancer is a hard, round, unequal, painful and generally immovable tumor, of a livid blackish, or leaden color, surrounded with swelled, crooked, varicous vessels, in some sort resembling the feet of a crab; and unless it be extirpated root, branch, and seed, it will be exasperated and strike inward, generate others and increase those already formed." A wonderfully true picture for the time it was written, and even true to-day.

But perhaps a more modern definition[6] comes from the pen of that distinguished author, Lewis S. Pilcher, who defines under the generic name cancer, "Those new growths, which, after they have once begun their formation, steadily continue the accretion of their own peculiar tissue, invade and replace adjacent tissue, progress at their periphery, while processes of necrosis cause the melting down of parts earlier developed, and, parasite-like, at the expense of tissues among which they develop, continue their progressive invasions and necroses, unchecked by any resisting power in the normal tissues, either already inherent in it or that can be brought to it by any mode of living or of medication."

Probably the most important pathological problem before modern medical science to-day is the mystery surrounding the etiology of cancer; yet it may be asserted with confidence that something definite and tangible has been reached through the untiring efforts and research of Dr. Harvey R. Gaylord.

Along with Major Walter Reed's startling demonstration at the recent Pan-American Medical Congress in Cuba, that the bite of the *Culex fasciatus* is sole cause for the propagation of yellow fever, this almost clinching proof of the protozoal cause of cancer marks the beginning of a new era in medicine, and these may justly be regarded as two of the greatest achievements of scientific research in modern times. For certainly the recognition, separation and cultivation of a disease germ, be it bacterial or protozoal, vegetable or animal, opens up the way for preventive medicine, and immediately suggests means for the relief of thousands of those everlastingly doomed to an agonizing death.

Pathology.—Dr. Warren, the distinguished surgeon to the Massachusetts General Hospital, speaks thus of the pathology:[27] "Carcinoma when found at the anus is of the pavement-cell variety, and when growing from the mucous membrane it appears as a cylinder-cell carcinoma. There are, therefore, in this locality both types of the so-called 'epithelioma.' The pavement-cell form, which takes its origin in the cutaneous coverings of the anus, begins as a warty or papillary growth that breaks down early and ulcerates. It is not unlike cancer of the lip in its early stages. The surrounding parts are more or less hard and infiltrated, and the edges of the ulcer are elevated and sharply defined. The growth spreads inward and involves the mucous membrane, and it invades also the external integument, involving the perineum or the commissure of the vagina and the labia in women. The cylinder-cell carcinoma, which develops from the follicles of Lieberkühn, begins as a more or less exuberant growth, which soon breaks down and develops into a crateriform ulcer involving more or less of the circumference of the bowel. This growth is found some little distance within the rectum, and it is often difficult for the exploring finger to reach its upper margin. The cells are arranged in acini, and they have a strikingly glandular appearance, closely resembling that seen in cancer of the

* Read at the meeting of the West Virginia State Medical Society, Grafton, May 17, 1901.

uterus. It is therefore often called 'adenocarcinoma' or malignant adenoma. This is the commonest variety of cancer of the rectum. Cancer occurs also in the medullary form, but more rarely. It is exceedingly malignant, and it soon infiltrates the walls of the rectum, converting the latter into a rigid tube and gluing it to surrounding parts. Scirrhous cancer is said to occur high up near the sigmoid flexure or in the neighborhood of the prostate. It infiltrates the submucous tissues, and the mucous membrane over it for a time appears healthy. It grows slowly and causes annular stricture, or it is felt as a hard nodule in the wall of the rectum."

Treatment.—Not many years ago a well-known text-book dismissed the subject of treatment in carcinoma of the rectum in words like these: "Treat symptoms and relieve pain as long as possible; as a last resource, do colotomy."

There still exists in the minds of the conservative doubt regarding the operative treatment of this disease. There are those who advocate the palliative colostomy, and are not willing to jeopardize the lives of their patients with any of the methods of excision, unless the neoplasm is engaging the first few inches of the rectum.

Treves[21] writes: "In no case should the peritoneum be deliberately opened, or a portion of the vagina, bladder or prostate excised. Experience has condemned these extensive operations."

Allingham[22] speaks thus conservatively: "To attempt to exercise the rectum when the growth is four inches up the bowel is most unscientific and unsurgical."

Harrison Cripps, surgeon to St. Bartholomew's, says: "If the finger can pass sufficiently beyond the disease to feel a healthy mucous membrane, so far as the height is concerned a satisfactory removal is possible."

Maylard,[23] surgeon to the Victoria Infirmary, gives his opinion as follows: "The question regarding this operation now comes to one of determining whether the good that it can effect sufficiently outweighs the untoward results that frequently follow; in other words, does the prolongation of life and the relief of suffering more than compensate for the lives it shortens and the often additional trouble it causes?"

Having referred to Czerny of Heidelberg, who reported a series of 36 cases operated on by sacral method with a mortality of 19.4 per cent., Maylard continues: "It need hardly be said that the question is one of extreme difficulty; for, even if it could be shown that Czerny's results gave a balance in favor of the operation, in supposedly suitable cases, it far from follows that less experienced operators, in such a grave and comparatively difficult operation, would obtain like good results. Indeed, if one may judge from isolated instances recorded—results argue rather against than for the operation."

These opinions, as will be observed, are from English surgeons of international reputation, and, while they contain much wisdom, they are more conservative than the operators of this country or of Germany are willing to accept. While McCosh referred to the surgeons being in the transition stage nine years ago, to-day, with a technic nearly perfect, surrounded by all of the modern appliances which inventive ingenuity can devise in the line of preventing shock, hemorrhage, and the establishment of almost impregnable barriers against parasitic invasion, at the beginning of the twentieth century, we stand abreast with our brothers in the fatherland, ready to fight this foe of mankind when there seems to be any reasonable hope of conquering.

Erichsen[8] writes that removal of cancer by excision of a portion of the rectum was first performed by Faget in 1739. An inch and a half were removed and the patient recovered. Lisfranc revived the operation in 1826, reporting nine cases with five recoveries. In 1854 Chassaignac used the écraseur in the removal of rectal growths. Nussbaum and Volkmann, in Germany, and Jordan, Allingham and Holmes, in England, worked diligently toward reviving the operation. The surgery of the rectum was developed and brought up to date in 1880 by the publication of Harrison Cripps' interesting work.

Gerster[9] wonders that any surgeon should have had the temerity to attempt to remove any extensive rectal neoplasm after looking into the imperfect and therefore bloody and dangerous procedures devised by Dieffenbach, Velpeau and other early operators.

Stanley Boyd's[10] edition of Druitt's *Vade Mecum* as late as 1887 refers to the high death-rate and sepsis is put down as the chief cause. The mode of approach was primitive, the hemorrhage was inevitably profuse, owing to the limitation of the field of work and the inaccessibility of the pelvic basin and its diseased contents (Gerster).

In 1883 while Richard Volkmann was removing a malignant growth from the sacrum, by accident he opened the sacral canal. This misfortune resulted in no untoward symptoms for the patient, and this fact aroused Kraske, who was then an assistant in Volkmann's clinic. The experimental research along this line led to the publication in 1885 of Kraske's[12] monograph, which revolutionized rectal surgery, reducing, as it did, the mortality after excision from 57 per cent. (Iversen) to 19 per cent. (McCosh).

Kraske's Method.—With the patient on the right side, a median incision is made, extending from a point opposite the third sacral foramen to the anus. After thorough retraction of the soft parts, the great gluteal muscle is loosened from its sacral attachment. The coccyx is removed and the lower fibers of the sacrosciatic ligament are divided. With a chisel, the left half of the lower part of the sacrum is removed as far as the pelvic floor, making easy access to the diseased cylinder and its adjacent parts. A collection of 102 cases operated upon in this way gives a mortality of 21.5 per cent., though Thorndyke's collection of cases gives a mortality of only 14.7 per cent. (Warren.[27])

The upper limit of the bone incision in all sacral

operations is explained lucidly in Dr. McCosh's paper, read before the New York Surgical Society April 13, 1892,[13] in which he says: "Division of the posterior branches of the sacral nerves is of little moment, as no important tissues are supplied by them. Division of the anterior branches of the fifth nerve is also unimportant. Division of the anterior branches of the fourth nerve, if confined to one side, is not followed by serious disturbance. Division of the anterior branches of the third nerve should be avoided, as they enter into the formation of the ischiatic plexus and serious changes in the innervation of the pelvic organs are liable to follow injury of either of these branches."

Bardenheuer's Method.—With the patient in the lithotomy position, the skin incision is practically the same as Kraske's, but the sacrum is cut transversely below the third sacral foramen and removed with the coccyx.

Heinecke's Method.[15]—Wishing to avoid whatever tendency toward weakening the pelvic floor which Kraske's method might bring about, Heinecke devised in 1888 a T-shaped incision in the skin, sawing the sacrum first vertically and then at the level of the fourth foramen transversely, thus making two folding bone doors. These are afterward united by suture.

Kocher Method.[16]—A long integumentary incision is made, freely exposing the bone. With a chisel each side of the sacrum is grooved along the inner side of the foramina, beginning at the third. The segment which is called the *"knochenspange,"* is removed. This exposes the sacral canal and makes certain the protection of the nerves.

These last two methods seem too complicated to have received general indorsement, yet the lateral blood-supply is maintained in both.

Levy,[17] in order to spare the fourth sacral nerve and the levator ani's coccyeal insertion, suggested an incision shaped like an inverted letter U, bending the osteoplastic arc toward the anus. But because of the limited space it offers, and the very imperfect drainage, it has seldom been used.

Hegar[18] carried the knife along the sides of the sacrum, making a letter V, and hinges the flap with a chain saw. Gerster claims good drainage in this method, but condemns it because of the impairment of the flaps' vitality.

Hochenegg[19] made a curved incision with the convexity to the right, commencing opposite the third foramen, extending outward and passing the middle line again below the last button of the coccyx. He based his report on thirty-two cases from Prof. Albert's clinic in Vienna.

Lange's[20] method of resection of the rectum with osteoplastic transplantation of the anal portion was brought to the attention of the profession at the meeting of the New York Surgical Society, January 14, 1891. Two patients were presented. In one a wide gap existed at the time of operation, between the proximal end of the intestine and the sphincters below, and it was to preserve the muscular power of the anus that led to the ingenious incision he then suggested. The knife was carried from each tuber ischii across the perineum in front of the sphincters. The incisions met in the raphe, and were made deep enough to allow of pushing the whole muscular apparatus of the anus upward, including the anal portion of the gut. Thus, in each case, fully three inches were gained and exact union of the gut with sutures to the sphincter was achieved. Dr. Lange recommends this operation where the sphincters can be preserved, and where the proximal end of the gut is not sufficiently movable to allow of its being pulled down to the anal ring.

Rehn (reported by Gerster) in 1890 described a series of successful cases in which a V-shaped incision was made, one leg of the V embracing the entire width of the sacrum below the third foramen, while the other passed along the left side of the sacrum and coccyx. This osteo-integumental lap when hinged exposes the diseased rectal cylinder in a most satisfactory way.

Zukerkandl, the Vienna anatomist, Borelias of Karlsbrona, and Wölfler, have reported modifications of Kraske's operation, each claiming special merit for his particular method.

Hartley[24] removed a cancerous mass complicating a rectosigmoidal intussusception according to a method suggested by Maunsell of Melbourne, Australia. The details of this method are unique and are described at length in the *New York Medical Journal,* October 22, 1892, also in Dennis' "System of Surgery," Vol. IV., p. 488.*

Dr. Howard A. Kelly describes the operation of drawing the proximal end of the sigmoid down into a slit which has been made in the closed rectal cylinder, clamping the traction sutures across the anus.

Dr. Charles K. Briddon[25] telescoped the proximal into the distal end of the gut in his classical case of complete, traumatic, transverse rupture of the rectum, and his patient made a good recovery.

Preliminary Colotomy.—This interesting subject can only be touched upon owing to the brevity of the time allotted to me. To those interested in this subject I would refer them to the scholarly articles by Dr Chas. K. Briddon in the *New York Medical Journal,* September 20, 1890, Dr. Robert F. Weir in the *Medical Record,* April 21, 1900, and more recently to Dr. Wm. J. Mayo's article in *American Medicine,* Vol. I., No. 3.

Dr. Briddon taught his students ten years ago that colotomy should precede proctectomy, and he almost invariably practised this teaching. Dr. Lewis S. Pilcher says, "preliminary colotomy is desirable in all cases; imperative when obstructive and ulcerative symptoms are marked." Dr. Wier writes that "the creation of a false anus is of increasing importance as a preliminary step in various operations on the rectum."

Bergmann[34] has not made a preliminary colotomy for some years. He claims that this opera-

* Maunsell's operation has recently been modified by Prof. Weir. The modification is a very ingenious one. Three cases are reported. MEDICAL NEWS, Vol. LXXIX. No. 4, p. 122, July, 1901.

tion does not ensure the emptying of the bowel. In 133 sacral operations by Hochenegg, reported by his assistant, Hanz Lorenz,[35] preliminary colotomy was done but four times. Notwithstanding the omission of this step in the preparatory treatment of the German surgeons, it is very frequently advocated and practised by American operators.

The operation is not entirely devoid of danger. Mayo lost his first case as a result of too much tension on the sigmoid, causing gangrene. However, it is so simple and safe in character that of itself it need not be considered as affecting the prognosis. It not only insures immediate relief of most of the distressing symptoms, the bleeding, the sacral pain, the tenesmus, thus permitting the patient to gather strength for the trying ordeal which is to follow, but it also insures the partial healing of the ulcer and diminishes the purulent discharge, to say nothing of the effective daily cleansing of the diseased tube which it allows in the preliminary treatment.

Report of Cases.—During the past year four cases of cancer of the rectum have come under my care. Two of these received operation and two were inoperable. Of the operated cases, in one a palliative colostomy for acute intestinal obstruction was done and in the second the Bardenhauer modification of Kraske's operation was employed.

Cases I. and II.—One from Triadelphia and the other from Bethany, W. Va., were admitted to my service in the City Hospital in Wheeling, suffering from inoperable carcinoma of the rectum. In neither case was it deemed wise to add the discomfort of an artificial anus; as there were no obstructive symptoms, moreover, this procedure could in no wise have checked the onward progress of the disease. Death came to the relief of both.

Case III.—Wm. B., aged sixty-seven years, living in Bridgeport, Ohio, I saw with Dr. Cole in April, 1900. Patient was suffering with symptoms of acute intestinal obstruction. He was admitted to the City Hospital, and under ether narcosis, in Trendelenburg position, a median incision revealed a cancerous mass, somewhat adherent, deeply situated and at the rectosigmoidal junction.

The critical condition of the man precluded the possibility of any prolonged plastic work. An inguinal colostomy was made. In five weeks the abdomen was opened a second time with the hope of doing a Maunsell operation, or some modification of it; but it was regretfully demonstrated that the case was entirely inoperable. The pelvic glands, mesentery and omentum were all matted together with cancerous adhesive infiltration. Recovery from the operation was satisfactory. The patient gained in flesh and strength, and at this writing, a year having passed, he is alive and fairly comfortable, with his artificial anus.

Case IV.—Carcinoma of the rectum, preliminary colostomy, excision of four inches of the gut, preservation of sphincter muscles, circular rectorraphy, complete recovery with restoration of sphincteric function. Mrs. K. F., aged 51 years, married, house-wife, no morbid family nor previous personal history. Increased difficulty and pain in effecting a bowel movement extending over six months, with the presence of blood, mucus and pus in the stools led to an examination November 11, 1900. There had been some tenesmus and the amount of blood lost was considerable; the dull wearing pain through the sacrum and bowel made her life a burden. There had been gradual loss of flesh and strength, and the cachexia early developed was now fastening itself upon her. The typical pipe-stem stools were in evidence.

The examination revealed an ulceration about one inch and a half from the sphincter, extending along the posterior wall of the rectum. This, an inch and a half higher up, merged into a funnel-shaped, irregular stricture entirely encircling the bowel. The unguinal phalanx passed with difficulty beyond the constriction, causing much pain and rather copious bleeding. The uterus could be made out above the cicatrical narrowing and there was healthy gut beyond this point.

Operation was honestly placed before the patient, with its many risks, the possibilities of relief, and prolongation of life or even of a permanent cure, and it was accepted. The patient was immediately placed upon preliminary treatment. Intermuscular inguinal colostomy was done December 5, 1900. The colon was easily recognized by its anatomical peculiarties, and brought into the wound. Traction was made in the direction of the descending colon, and continued until shortness of the mesocolon arrested further extension. This step in the technic is of the greatest importance, preventing beyond doubt procidentia through the newly-made anus.

The writer cannot agree with Wyeth, as reported by Mayo, when he says: "All of the movable sigmoid should be pushed upward, making the opening as near the rectum as possible." The sigmoid flexure may be the natural reservoir for fecal accumulation, but by placing it on the proximal side of the new anus, prolapse will most certainly occur in some cases. Having had one experience of this kind, the writer does not hesitate to place emphasis on this point, so well set forth in Dr. Pilcher's article.[37]

The protruding colon was withdrawn far enough to expose the mesocolon, and a supporting rod of glass about the thickness of a slate pencil was thrust through the mesentery. This clean rod at once created a spur, preventing the return of the gut and holding the parietal and visceral peritoneum in contact. No sutures were used. Three days later the bowel was opened with a Paquelin cautery. Irrigations of the colon and a cleansing toilet of the rectum were practised once or twice daily until the day of the sacral operation.

Operation was performed December 18, 1900; ether narcosis; Sims' position. An incision was made from the middle of the sacrum to the anus. The coccyx was removed and the sacrum divided

transversly just below the third sacral foramen with a chisel. The sphincters were divided, the rectum laid open posteriorly, a circular incision was made a half inch above the sphincter entirely around the gut, and the blunt dissection pushed forward. The liberation of the diseased tube was not difficult. The dissection was carried an inch and a half beyond the disease, and the gut excised just below the point of the peritoneal reflection. The cut segment of gut above was approximated to the short remaining portion below, with as little tension as possible, and a circular rectorrhaphy performed. The divided sphincters were restored by the use of iron-dyed silkwormgut. A loose packing of sterile gauze was placed in the wide gaping wound. No iodoform gauze was used. While the patient's condition was good all through the operation, thanks to the skilled administration of ether by Dr. Robert H. Bullard, soon after reaching her bed she exhibited symptoms of profound shock; the skin was cold and clammy, the respirations were shallow and sighing, and there was no radial pulse. It required the most active measures, including the submammary infiltration of two quarts of decinormal salt solution to keep the heart beating, in addition to other cardiac stimulation.*

The progress of the case after the first forty-eight hours was uninterrupted. Her temperature was never over 99° F., and, excepting one small opening back of the anus, less than one-quarter of an inch in diameter, the new rectum never departed from the sphincters to which it was sutured. The wound granulated kindly, there was absolutely no infection. The artificial anus did most excellent work, permitting the cleansing of the bowel in both directions. There never was the least tendency to prolapsus. February 22, 1901, the artificial anus was closed, according to the extraperitoneal method suggested by Grieg Smith.

The patient has almost perfect sphincteric control. She has gained in flesh and strength, has lost her cachexia, and to-day is entirely well.

Revision of the Statistics.—During the past year or so a very large number of statistical papers have appeared on the radical operation for rectal cancer, based chiefly on the work done in German clinics. The majority of the latter have reported their cases so that we have a very complete account of what is going on in this department. Unfortunately it is not as easy as would appear to obtain accurate figures as to the sacral route. Some authors include under this title resection of the coccyx and temporary resection of the sacrum, while others do not. Naturally the precise route is not always mentioned. Some reports deal separately with intervention involving the bone, while others include under sacral the parasacral operation in which the bony structures are not divided. Authorities have different ideas of operative mortality, some including all deaths which follow the operation, others only such deaths as are caused directly by the latter. Many favorable percentages are, of course, due to the selection of cases, so that to-day no figures have any value which do not give the total number of cases which come to consultation. It is almost a rule in statistics that the greater the percentage of cases submitted to operation, the higher will be the operative mortality. Some authors compare the number of cures with the number treated, others with the number operated upon radically, others again with the number who survive the operation. There are thus three distinct standards, and more or less confusion is bound to arise. When all these sources of error and misunderstanding are borne in mind it will be apparent that the collection of accurate statistics under such circumstances is a difficult procedure.

Early in 1900 Krönlein[28] of Zurich compiled the statistics of clinics which had already published their reports for a period of years. Eleven large clinics were presented, including his own. His table shows that the operative mortality in radical operations of all kinds, irrespective of route, averages 19.4 per cent. He analyzes the causes of death in 161 cases. In a third table he shows that the permanent cures based upon the number of operations averages 14.8 per cent. Krönlein gives no statistics of the sacral route; his tables are full of interest and are as follows:

TABLE I.

OPERATIVE MORTALITY IN RADICAL OPERATIONS OF ALL KINDS.

Operators.	Year.	Operations.	Deaths.	Per cent.
Kocher	1873–1899	35	10	28.5
König	1878–1890	96	31	32.5
Czerny	1878–1891	109	11	10.
Krönlein	1881–1899	63	7	11.1
Gussenbauer	1882–1896	145	33	22.7
Bergmann	1883–1888	46	5	11.3
Madelung and Garre	1883–1899	53	10	19.
Kraske	1885–1896	80	15	18.7
Küster	1885–1898	95	24	25.2
Hochenegg	1887–1897	93	8	8.6
Mickulicz	1890–1897	66	17	25.7
	Total	881	171	19.4

The joint results as to the cause of death are as follows:

Number of deaths, 171—sepsis and pyemia, 46; peritonitis, 37; heart-failure, collapse, 32; pulmonary affections, 21; miscellaneous, 35.

Krönlein next compiles a table of permanent results, the period to include all patients who have passed three full years without any recurrence of the disease.

TABLE II.

PERMANENT RESULTS.

Operators.	Operations.	Cures.	Per cent.
Kocher	35	10	28.5
Czerny	109	16	14.6
Krönlein	63	10	16.
Bergmann	46	8	17.4
Madelung and Garre	53	6	11.3
Kraske	80	11	13.7
Küster	95	16	16.8
Hochenegg	93	12	12.9
Mikulicz	66	6	9.

Average percentage of cures, 14.8.

*The author desires to express his appreciation of the skilful services of Drs. J. Schwinn, Andrew Wilson and Wm. H. McLain and of the valuable pathological work of Dr. Wilson.

Aside from the foregoing, although three years' immunity is usually considered a cure, a number of late relapses have been recorded, as follows: Kocher, 3; Krönlein, 2; Kraske, 3; Hochenegg, 1; Mikulicz, 2; Madelung and Garre, 2; making a total of 13.

The general results, then, are as follows: Died from operation, 19.4 per cent.; permanently cured, 14.8 per cent.; balance, 65.8 per cent.

As to incontinence: Absolute continence, 30 per cent.; relative continence, 60 per cent.; incontinence, 10 per cent. These figures are based on the analysis of 39 personal cases of Krönlein.

Walter Christen, assistant to the Zurich surgeon, issued a paper at about the same time Krönlein's appeared.[29] Christen's paper deals entirely with Krönlein's personal cases, private and public. Out of 46 cases seen 24 received radical operation and of this number there were two deaths, a mortality of 8.3 per cent. Fifteen patients underwent relapse sooner or later. The 15 cases of relapse averaged twenty-seven months of life, while the non-operated cases averaged but eight months.

About the same time there was published by F. Schneider[30] the statistics of the Rostock clinic representing the work of Madelung and Garre. One hundred and fifteen patients applied for treatment for rectal cancer from 1883 to 1899; of this number 53, or 47.2 per cent., were subjected to radical intervention. Kraske's operation was done fourteen times, resection of the coccyx alone twelve times, and temporary resection of sacrum by Schlange's method four times, making a total of 30 bone operations, with an operative mortality of 25 per cent. Only two survivors passed the three-year limit; one is still well, while the other had a relapse after six years.

Up to this time we find no satisfactory statistics of the sacral operation. Early in 1900 Josef Pichler, assistant of the Vienna surgeon, Prof. Hochenegg,[31] collected for the first time all of the sacral cases he could locate, in which the operators had a series of operations to their credit, including a small number of miscellaneous operations once collected by Frank.

TABLE III.

PICHLER'S TABLE OF SACRAL OPERATIONS.

Source.	Cases.	Deaths.	Per cent.
Czerny	36	7	19.1
Krönlein	1	1	
Mikulicz	57	14	24.5
Frank (miscellaneous)	39	7	17.9
Vienna Hospitals	83	13	15.6
Bilroth Klinik	56	10	20.4
Gussenbauer	15	4	26.6
Klausner	5	0	0.
Kraske	66	5	7.5
Paul	19	4	21.
Swinford	14	2	14.
Regnis	4	1	
Küster	46	7	15.2
Hochenegg	119	6	5.04
Total	563	81	15.

The Rostock cases reported by Schneider which would increase the number to nearly 600, are not included in this table. It might be well to mention as a comparison a collection of 217 cases of perineal operation from the statistics of Czerny, Kocher, Krönlien, König, Mikulicz and Gussenbauer, containing 37 fatalities, or 17 per cent.

Hochenegg's 119 sacral cases are carefully tabulated in Pichler's article, and of this number 29 were living three years after intervention. Of the 40 out of the 119 cases known to have relapsed, the average duration of life was 21.4 months.

Upon the appearance of Pichler's paper, Prutz of Königsberg, assistant to Von Eiselburg, attacked[32] the statistics and revised them or edited them in such a way that he made the operative mortality 21 per cent. instead of 15 per cent. for the sacral method. Prutz includes all deaths indirectly due to operation, while Pichler takes the direct deaths only. Soon after this controversy Prutz wrote a second paper,[33] which was a study of Von Eiselburg's cases of rectal cancer and these are not included in any of the preceding tables. During the years 1896-1901, 75 cases of cancer of the rectum came to the Königsberg clinic for treatment; the proportion of men to women was 10 to 7. Forty-five cases underwent operation, or 3 out of every 5, and 38 of this number were sacral cases. The operator lost 5 of his 45 cases, making a mortality of 11.1 per cent.

It will be seen that in Krönlein's table Bergmann's statistics extend only to 1888, while Pichler's sacral table contains no reference to Bergmann. After the preceding papers had called attention to the matter Heinrich Wolff, assistant to Von Bergmann of Berlin,[34] published all of the latter's material from 1888 to date. The total number of cases seen was 155, of which 125, or 80.6 per cent., were subjected to radical intervention, while 30 were treated by palliative measures.

Amputations: Extirpation of coccyx alone, 21 cases; extirpation of coccyx with partial restriction of sacrum, 8 cases; no bone operation 17 cases; data wanting, 14 cases. The operative mortality in 60 amputations was 9, or 14.7 per cent. Of 39 survivors followed up 12 are still living. Of 65 resections only two were operated upon by other than the sacral method, and in these two an abdominal section was performed. Of the whole number of resections, 31 died as a result of operation, 47.7 per cent., and of 34 survivors 28 were followed up, and of this number 8 are still alive.

Combined statistics: In 125 operations there were 40 deaths, 32 per cent. mortality. One-half of these patients died from collapse, narcosis, hemorrhage and shock. Permanent cures from both operations, 27.7 per cent.

Wolff points out that any attempt made to demonstrate the excellence of highly-individualized methods of operating have a tendency to injure statistics by making comparisons difficult. Another fallacy is found in the selection of only simple cases for operation, which naturally gives

a low primary mortality. As a result of his study of statistics he notes the great discrepancy in the results adduced and seeks to explain them on one of two grounds, namely, the fixation of the indication *before* operation or the fixation of the indication *during* operation.

The author is able to demonstrate his points from two sets of statistics in Bergmann's clinic. The first series runs from 1883 to 1888 and has a primary mortality of 11.3 per cent.; the second series extends over the period 1888 to 1900, with an operative death-rate of 32 per cent. These results were obtained in one and the same clinic, and by the same operator. We can therefore do away with matters of personal equation, such as differences in technic and of material seeking operation.

To explain such wide discrepancies, however, there must be some reason. The modern methods of wound treatment may have its weight, or the indications for interference may have undergone change. Certainly the results obtained during the second statistical periods were three times as bad as during the earlier epoch. Why? The chief explanation which can avail here is that the surgeon, in later years, began to operate on cases which he had previously regarded as inoperable. But this course of reasoning does not exhaust all the possibilities. Examination during narcosis, a step, by the way, which should never be omitted, may also exert a strong influence on the issue of the case. The revelation of extensive adhesions or glandular involvement must often cause the operator to change his original plans, if he has his patient's interest at heart. Two courses are open to him: First, he may abandon further intervention, may change a would-be radical to a palliative procedure, thereby saving the sufferer from operative death, while placing him in line for certain relapse, and thus obviously benefiting statistics. The second course is the extremely radical one, the extirpation of the infected ganglia and adhesions, placing the patient's life in extreme jeopardy—this same patient who would have been satisfied had the operation been abandoned and would have lived to thank the operator.

For many years Von Bergmann has advocated and used the sacral method for cancer high up in the rectum, and he has also used the modification known as the Schlange osteoplastic operation. While this latter modification gives better access to the tumor than any other method, it is undeniably formidable and is attended with excessive hemorrhage and shock.

Amputation of the rectum is attended by considerably less danger than is resection; so much so that statistics of the two operations should be kept separate. Amputation is less bloody and requires less time. Opening the peritoneum is no longer regarded as a momentous complication. Most operators will share this opinion with Wolff, yet it should be avoided, particularly in resection cases in which a preliminary colostomy has not been done. Wolff speaks of the importance of eight or ten days of preparatory treatment, or even more. Only liquid nourishment is allowed during this period, and stools are secured regularly by the use of castor oil and enemata of water. Hochenegg and Lorenz[35] express the very opposite opinion, claiming it is difficult to empty the bowel when a stricture of the gut exists. The fluid dejecta produced by purgatives may do more harm in premature defecation than if the feces are scybalous. The Vienna surgeon has therefore abandoned purgatives on this account.

In the treatment of the wound surface Bergmann abstains from a primary suture and relies upon tampons of iodoform gauze. In a certain number of cases Wolff describes a delirium which followed the operation, lasting two or three days or as many weeks. This was thought to be due in a measure to iodoform toxemia and simple sterile gauze was used in its stead in a series of cases. Nevertheless the delirium still appeared with some frequency. According to some authorities, this delirium is apt to follow rectal operations, which perhaps justifies the belief that the phenomenon is due in some way to the bacillus coli. In this connection it will be well to mention that the liberal use of iodoform gauze in large gaping wounds of the kind under consideration is undoubtedly pernicious. Sterile gauze will answer the same purpose and its use is attended with no danger.

One word regarding the *"durchzeit"* operation recently described by Hans Lorenz.[35] Of the 133 sacral operations performed in Hochenegg's clinic, bringing this operator's work up to February, 1901, there were 90 amputations, 25 resections and 17 of the so-called *"durchzeit"* operations. This latter method, devised by Hochenegg seeks to substitute for reuniting the intestine a suture of the bowel to the lips of the skin.

The mortality of the three forms of operation is as follows: Ninety amputations with 13 deaths, of which 8 were from wound infection; 25 resections with three deaths, all from wound infection; 17 *"durchzeit"* operations with one death from wound infection. In all cases in which the sphincter is left intact after excision of the rectum, and in which it is possible to mobilize the proximal end of the gut without serious tension to the sphincter, Hochenegg adopts this method. He denudes the mucosa and inverts the anal portion, then brings down the proximal gut and sutures it to the external skin.

The functional result following the *"durchzeit"* operation is interesting and is shown in the subjoined table.

TABLE IV.

Result.	Durchziet Method.	Resection.
Complete Continence.....	47 1–17	36 4–11
Partial Continence.....	29 7–17	27 3–11
Incontinence.....	23 9–17	36 4–11

The latest clinic to make a complete report of its work is that of Schedé of Bonn, reported by Carl Vogel[36] in April, 1901. Schedé has performed 22 sacral operations with 10 deaths, while

TABLE V.

VOGEL'S MODIFICATION OF KRÖNLEIN'S TABLE I. BROUGHT UP TO FEBRUARY, 1901.

Operator.	Mumber treated.	Radical Operation.	Mortality.
König	120	78.3 per cent.	32.5
Czerny	151	71.1 "	10.
Krönlein	110	57.2 "	11.1
Gussenbauer	259	56. "	22.7
Von Bergmann	155	80. "	32.
Madelung and Garre	115	46. "	19.
Kraske	110	73. "	18.7
Küster	126	75.4 "	25.2
Hochenegg	141	66. "	8.6
Mikulicz	109	66. "	25.7
Helfenit	46	48. "	13.6
Schedé	66	80.3 "	32.
Total	1508	66	20.

his percentage of recoveries is 25 per cent. Vogel concludes his paper with the following interesting table, modifying Krönlein Table I. by additions.

SUMMARY OF SACRAL OPERATIONS.

	Cases.	Deaths.	Per cent.
Pichler	563	81	15
Prutz (revision of Pichler's)	542	115	21

Since the controversy over these statistics the following have appeared:

Rostock Clinic	32	8	25
Von Eiselberg	38	?	?
Von Bergmann	92	?	about 45
Hochenegg (up to Feb. 1901.)	14		
Schedé	22	10	45
	198		

These cases add nearly 200 more sacral operations to the material collected by Pichler, or a total of 761 sacral operations for cancer of the rectum for Germany, Austria, and Switzerland, with a few in the British Islands, with an operative mortality of about 18 per cent.

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THE PROBLEMS OF PHYSIOLOGY AND PATHOLOGY.[1]

MARTIN H. FISCHER, M.D.,

OF CHICAGO;

PATHOLOGICAL LABORATORY, RUSH MEDICAL COLLEGE, CHICAGO.

THE problem that most interests scientific medicine to-day is the nature of life phenomena. The methods of work and reasoning which the past has applied to the solution of this problem have failed of that complete explanation which we crave. It seems evident, if we interpret the signs of the times correctly, that medicine is undergoing a radical change and that it is approaching its great problem from another standpoint than that of the past. Within the last few years physics and chemistry have made advances of a most signal nature, and it is to the application of these newly-learned truths to the problems of medicine that we must attribute the changes that modern medicine has undergone. Indeed, to bring medicine under the rigid laws of physics and chemistry seems to offer the only hope of establishing it as a science, and of depriving it of those characteristics which have led some men, alas, to call it an art. Deeply hidden as seems to be this essence of organic nature—life, our craving for the knowledge of the unknown will give us no peace until we have found it. How near at hand or how distant the solution of this problem may be is not for us to say. Every day brings some new fact to light that carries us a little nearer to the solution of our world enigma, and so long as this continues man will not cease in his endeavor to know still more.

In the following pages I have collected a few of the facts which show what the present is contributing to the solution of our problem. I have confined myself to the fields of physiology and pathology, and it has been my object to show where it is possible that the answers to some of our questions lie.

For years men have toiled in the department of anatomy and by description and drawing have given us an insight into the architecture of the body. With the invention of the microscope, and

[1] An address delivered to the graduating class of Rush Medical College, Chicago, June 20, 1901.

the development of the cellular hypothesis, our knowledge in this direction has been much refined, and with modern facilities this knowledge has become so widespread that every student of medicine has in his possession a clear picture of the machine with which he has to deal. This has helped much in the elucidation of life phenomena. Pathology, of much more recent date, has had the same developmental history. Just as we have had a cellular physiology we have had a cellular pathology. But morphology has its limits and description and illustration have an end. The close of the last century has perhaps seen the last of the great contributions that morphology can make to medicine. Much as this morphology has added to the knowledge of the structure of our machine, it has given us but little insight into the forces that operate it. And so it is that we have been driven to look to that which lies behind structure, to a consideration of the composition of the substances that go to make up the outward form. We have been forced to abandon the fields of morphology and to enter the domain of chemistry.

But let me not be misunderstood. The necropsy theater has been the means of linking together signs and symptoms with definite pathological lesions. The accuracy of our present medical diagnosis is but the expression of careful clinical study followed by patient postmortem investigation. The value of histological pathology, too, in its bearing upon clinical medicine can never be overrated. The microscope has been and must ever remain one of our most trustworthy aids in the diagnosis of many obscure pathological conditions. But the diagnosis of diseased conditions is not the ultimate object of medicine; medicine would do more than this —it would control the forces of which pathological lesions are but the outward expression. Clearly morphology can render us little service in this direction. My remarks have reference to the future in pathological research.

* * *

The physiologist's problem of to-day is the determination of the constitution of living matter; the pathologist's problem, the constitution of living matter in its perverted state. For years physiological chemistry has busied itself with a study of the chemical processes that go on within the living organism. It has studied the substances necessary for the metabolism of the animal tissues and the end-products of this metabolism; it has studied the ingesta and the egesta of animal economy. The same statement holds for pathological chemistry. Only recently has the question been asked, "What happens between the beginning and the end of metabolism?" And it is just here, in this study of what we might call dynamic chemistry, that the solution of so many problems in physiology and pathology lies.

It is now about fifteen years since physical chemistry—the science which would point out the relation between the physical properties of a substance and its chemical constitution, the science that deals with the dynamics of chemistry—was established as an independent science. Time does not permit me even to mention the rich results that this new science has already yielded, and the purpose that it has served in the elucidation of many obscure chemical and physical facts. What is thus far one of its greatest developments, the theory of electrolytic dissociation, has in itself served to correlate a mass of heterogenous facts which seemed to bear no relation whatsoever to each other. What the possibilities are that lie in the application of this theory to the problems of physiology and pathology may be imagined after a brief recital of a few of the facts that such work has already yielded.

When the gastrocnemii of frogs are immersed in equimolecular salt solutions, it is found that the amount of water absorbed by them depends upon the nature of the solution in which they are immersed. In solutions of sodium or lithium salts the muscles gain but little in weight; in equimolecular potassium salt solutions the increase in weight is enormous; in the equimolecular solutions of a calcium salt the muscle loses water. Furthermore, the coagulation of albumin by heat is intimately associated with the presence of inorganic salts. Experiments with equimolecular salt solutions show that the point of coagulation of a salt-albumin mixture varies with the nature of the salt employed. These and other facts seem to indicate that the various salts in the body probably stand in definite combination with the proteids as ion proteid compounds. It is possible to substitute one class of ions for another, and so alter the chemical and physical properties of the proteid molecule. With alterations in physical structure come alterations in function. To supply an organism with only one salt is to destroy its function. Thus, even common salt, sodium chloride, which permeates all our tissues, in pure solution acts as a poison, since it supplies the organism with only one kind of metallic ions.

The riddle of the heart beat, too, has been brought a step nearer solution. It has been definitely proved that the rhythmic activity of the heart is dependent upon the presence of certain salts in the blood. The heart cannot beat except in the presence of sodium ions in the circulation, but sodium ions alone act as a poison and soon bring the heart to a standstill. The presence of certain other, for example, calcium ions, however, neutralizes the poisonous effects of the sodium ions. Indeed, in a mixture of these two salts heart muscle will beat rhythmically for hours. Any of the voluntary muscles can be made to contract rhythmically just as heart muscle by the simple abstraction of a little calcium from the mixture of these salts. It is a slight excess of calcium in our blood that keeps the voluntary muscles of our bodies from contracting rhythmically. These facts are interesting in another direction; they show that in this case chemical and not morphological differences underlie variations in function.

In the physiology of taste, the theory of ionization has also correlated many heterogeneous facts. Acids taste sour because they contain hydrogen ions; the characteristic taste of hydroxides is due to their hydroxyl ions. With inorganic compounds the intensity of the taste is directly proportional to the number of ions that the solution contains. With organic salts, however, this law does not hold. The halogens have a salty taste due to the halogen ions. Sodium, potassium, magnesium, lithium, and other metallic ions each have an individual taste. Thus the taste of a given salt is dependent upon the nature of the ions that constitute its molecule.

The application of the theory of electrolytic dissociation to the action of germicidal solutions has forever laid to rest the old idea that the action of a mercurial is dependent upon the amount of mercury contained in solution, and is independent of the nature of the compound. The germicidal action of a mercurial is dependent upon the number of mercury ions in solution, and since among the mercurials the bichloride dissociates most readily when dissolved in water, it has the strongest antiseptic action. That it is, indeed, the mercury ions that are the efficient agents in the destruction of bacteria is proved by the fact that the solution of a mercury salt in alcohol—a substance in which no electrolytic dissociation occurs—has no germicidal properties. The same reasoning is applicable to the salts of silver, gold, zinc, copper, and the other metals.

Pathologists have in years past sought the explanation of the edema which occurs in some pathological processes either in an increased blood-pressure, or in changes in the permeability of the vessel-walls, which under normal or increased blood-pressure permit the blood serum to filter through. Thus the cells concerned in the edematous process have been considered to play only a passive rôle. There are facts, however, that go to show that the cells play an active part in the pathological process. I have already referred to the experiments which show that the differences in the constitution of protoplasm which follow its immersion in various equimolecular salt solutions lead to differences in its ability to absorb water. It is not impossible that the conditions which give rise to the edema may in reality so disturb the normal metabolism (through lack of oxygen or altered processes of fermentation) as to lead to an increase in the number of molecules in the cell, or to changes in the chemical constitution of the protoplasm. This places the cell in a position to absorb water from the blood or lymph. Thus an edema of the affected cells results.

The mechanical notion that a cell may be considered a semipermeable membrane enclosing protoplasm has been much neglected. It has been known for many years that certain vegetable cells, when placed in water or in a solution of less concentration than that contained in the cells, swell up and burst. To van t'Hoff belongs the credit of having pointed out that in this case we are dealing with differences in osmotic pressure between the cell-contents and the surrounding fluid. The semipermeable membrane separating the two fluids is found in the layer of protoplasm which lies close to the inner side of the cell-wall. This mechanical conception of the cell and its bearing upon osmotic phenomena is not to be lost sight of when we look for the explanation of life phenomena along purely chemical and physical lines.

Another field that promises great contributions to physiology and pathology is the study of enzyme activity. Enzymes are characteristic of all life phenomena, pathological as well as physiological With the ordinary properties of enzymes, their ability to produce change in other substances without undergoing change themselves, their power to bring about this change independently of the amount of the ferment employed, their destructibility by heat, most students of science are familiar. Recently it has been found that the action of certain enzymes is reversible. This gives the enzymes an entirely new rôle in the explanation of life phenomena, for they can no longer be considered as substances which have to do only with the breaking down, but also with the building up of complex molecules.

Lipase (steapsin) the fat-splitting enzyme of the pancreatic juice has the power not only of dissociating a fat into its fatty acid and alcohol, but also of building up fat from a mixture of fatty acid and alcohol. Which of these two functions it is that lipase manifests is dependent upon the relative proportions of fat and the products of dissociation that are present; in other words, lipase establishes a chemical equilibrium between the fat, and the fatty acid and alcohol. Outside of the body, fat is digested by lipase only to a certain extent if the products of enzyme activity are not removed. This is because a state of equilibrium is reached between the molecules of fat and the products of its dissociation. If, as in the intestine, the fatty acid and alcohol are removed as soon as formed, the fat-splitting ferment continues its action until all the fat is digested. Of what significance, now, is the reversibility of this enzyme action? Simply this. The presence of lipase has been demonstrated in the various regions of the body where fat deposits are found. As the fatty acid (this circulates in combination with the salts of the blood as a soap) and the alcohol come into contact with the enzyme of the cells, since there is now an excess of the fatty acid and alcohol, the enzyme activity is reversed, and fat is deposited. The fat absorption which occurs in starvation is also readily explained by the reversibility of the fermentative action of lipase. In starvation the fatty acid and glycerin of the cells diffuse into the blood. In consequence the equilibrium existing within the cells between these substances and the fat is disturbed. This causes the lipase to reverse its action, and where its presence once led to the building up of fat, it now leads to fat destruction.

The action of maltase, a ferment found in the

saliva, is also reversible, for not only can this enzyme split up a molecule of maltose into two of glucose, but it can build up two molecules of glucose into one maltose. Which of these takes place is simply a matter of equilibrium, for in the presence of an excess of maltose the enzyme forms glucose; in the presence of an excess of glucose the enzyme forms maltose. It is possible that the action of the proteolytic enzymes is also reversible. If this be true then the long debated question of how the body is able to build up proteids out of the products of proteid digestion is at an end.

Physiologists have long been troubled to explain the relation of the breaking-down processes which occur in digestion to the building-up processes which go on in the tissues. The reversibility of the action of enzymes shows how it is possible to build up complex molecules from the simple molecules which are the products of digestion. This makes the changes in digestion and tissue metabolism the same.

* * *

It would scarcely seem necessary in the present state of scientific development to speak a word against the "vitalistic" tendencies of certain classes of scientific workers. One would think that the search for causality would prevent scientific men from having recourse to the teleological in the explanation of life phenomena. Allowing for the moment that the position of these observers is the correct one, we, in our attempt to solve the problems about us, can never admit it. Such views lead only to scientific stagnation. To say that "Nature" is responsible for the hypertrophy of the blacksmith's arm, or that "Nature" causes the hypertrophy of the heart in a pregnant woman, illy answers our ever-pertinent question, "Why?" We are inclined rather to look for the explanation of these phenomena in the altered metabolism of the muscular structures. It is not "Nature" that causes the caterpillar to go up the tree in search of food; it is the animal's response to light (heliotropism), a response as definite when dry branches and death await the animal's arrival at the top, as when young shoots and life crown its efforts.

Let us pause for a moment to ask ourselves whence the assumption of a vital force comes. The old philosophers and physicians found all life phenomena intimately associated with a "spirit of life." Hippocrates, Erasistratus, Democritus and Galen could explain locomotion, respiration, speech, and the beat of the heart only through the existence of their *pneuma*. This philosophy continued until the fifteenth century, when, with the discovery by Harvey of the circulation of the blood, the superstitions that had for so many centuries enveloped the manifestations of what we term "life" received a severe rebuke. The circulation of the blood, together with the study of respiration, seemed to make possible the explanation of at least some life phenomena upon purely mechanical grounds. Deeper studies into the interchange between oxygen and carbon dioxide, and studies into the phenomena of digestion showed that other life processes are explainable upon a purely chemical basis. On the other hand, a great number of physiological processes continued to baffle the human mind. The physiologist Haller, who in his *Elementa Physiologiæ* first collected the discoveries in physiology that followed Harvey's work, failed to see how the "sensibility" of nerve or the "irritability" of muscle could be explained upon any other ground than the assumption of a specific *vis vitalis*. Still more baffling were the phenomena of reproduction and mental activity—two processes so obscure and so enveloped in mystery that a purely mechanical explanation of them seemed impossible. It was thus that a complete dualism in physiology sprang up, for while the explanation of some life phenomena upon a purely chemical and physical basis seemed possible, that of others was possible only upon the assumption of a vital force. These views were, however, but little better than the superstitions that had so blinded the progress of science before the days of Harvey.

It is to Helmholtz, Ludwig, Brücke, and others that we must give the credit of being the first to rebel against the vitalistic explanation of life processes. These thinkers showed that most of the phenomena that occur in the human organism take place in accordance with simple physical and chemical laws. I need not here recite the progress in physiology and pathology that the last half century has yielded. We no longer call upon a vital force in the explanation of the gross manifestations of life. Modern vitalists become so only when the functions of the individual cell are concerned. Modern dualism is the dualism of centuries ago, only with the advance of the ages it has undergone a refining process. Let it be noted that vitalism begins in every case where definite knowledge ends. Ignorance of the common laws of physics and chemistry made vitalists of the ancients; while our temporary ignorance of the physics of the colloidal solutions, and of the complex chemistry of the proteid molecule, makes vitalists of some physiologists and pathologists of to-day.

Each year brings new facts to light that contribute to the explanation of normal and abnormal life processes upon purely physical and chemical grounds, while they correspondingly detract from the value of all vitalistic explanations. Mental activity is no longer considered the expression of a disembodied spirit, and modern students of physiology cannot conceive of a mental act which has not its organic basis. psychology is an experimental science and as such is fast taking its proper place as a subbranch of physiology.

Enzyme activity which underlies all life processes is also associated with naught that is vital. The famous controversy between Pasteur and Liebig as to the vital principle concerned in fermentation is forever at an end. We now know that the enzyme activity of various organisms is dependent upon the presence within them of cer-

tain chemical substances that can be extracted from the dead calls, and which when added to fermentable substances produce chemical changes in them in just as typical a way as the organisms themselves. Zymase, the enzyme contained in yeast cells, is just as capable of splitting sugar into carbon dioxide and alcohol as the yeast cells themselves. In our own cells the processes of oxidation, so essential to and so characteristic of life, are dependent upon certain enzymes. But there is nothing living or vital about them, for they can be extracted from dead, even from alcohol-preserved tissues, and will when added to certain substances oxidize them in as characteristic a way as ever oxidation occurred in the living animal itself.

It may not be out of place for me to digress a moment in order to cite an experiment which shows how the action of these oxidizing ferments may be mimicked in the laboratory. It is possible with proper laboratory facilities to suspend finely-divided metallic platinum in water. This colloidal solution is capable of reducing hydrogen peroxide in just as characteristic a way as are the ferments derived from organic sources. The addition of hydrocyanic acid to these oxidizing ferments inhibits their action. In the same way the addition of hydrocyanic acid to the colloidal solution of platinum inhibits its power of decomposing the peroxide of hydrogen. Thus we have the paradox of being able to poison or "kill" a dead substance.

The phenomenon of reproduction, too, has been deprived of its vitalistic nature. The last two years have shown that a slight abstraction of water from the eggs of certain marine animals causes them to develop into living, swimming embryos without the intervention of the spermatozoon. Residence for a few hours in a concentrated solution of sugar, urea, glycerin, or any one of several salts brings about the necessary abstraction of water from the unfertilized eggs, which when returned to sea-water develop parthenogenetically. In some varieties of marine life the fertilizing function of the spermatozoon is replaceable by the addition of certain ions to the sea water. A few drops of acid, or the addition of a small amount of any potassium salt causes the development of embryos from the unfertilized eggs of the sea-worm *Chætopterus*. Thus is done away with the specific "life-giving" power of the spermatozoon. The development of embryos from unfertilized eggs which under ordinary circumstances cannot develop without the intervention of the spermatozoon breaks down another barrier to the explanation of life phenomena upon a purely physical and chemical basis. These experiments serve to show the weakness of the vitalist's position. The scientific worker of to-day must consider life as the expression of certain chemical changes that occur in the organism. Never can he consider chemical change as the expression of the specific "life" residing within the cell.

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I believe that the few facts which I have brought to your notice this afternoon suffice to show that the progress of science toward the solution of our world problem, life and its manifestations, lies along chemical and physical lines. It is my firm belief that with the close of the nineteenth century the curtain has practically fallen upon cellular physiology and cellular pathology. The new century has to busy itself with a *molecular physiology* and a *molecular pathology*. Physical chemistry will serve no small purpose in solving the problems that confront us. The study of enzymes, too, will answer some of our questions. It is essential that we lay aside our tendencies toward vitalism. Vitalism is an unknown equation and serves only as a cloak for our ignorance. The argument that we are unable to explain all life processes by simple physical and chemical laws and that in consequence we must assume a "vital force" is as indicative of ignorance as it is of weakness. Let it not be forgotten that chemistry and physics have not yet solved their last problems. Until recently physicists have considered all matter to be composed of atoms and molecules. Physical chemistry has added a third form of matter, the electrically charged atoms and groups of atoms called "ions." A fourth form of matter, the "electrons," dates from the discovery of the Roentgen rays. In the face of the fact that the physicist has not yet determined the constitution of matter, it is irrational to expect the physiologist to be acquainted with the constitution of living matter. Time will solve all problems. In the meantime let us cultivate our demand for causality, and let us be satisfied with no explanation save that of experimental proof.

INTRATRACHEAL INJECTIONS IN BRONCHIAL AND PULMONARY AFFECTIONS.

BY WILLIS S. ANDERSON, M.D.,
OF DETROIT, MICH.;
LARYNGOLOGIST TO THE HARPER HOSPITAL POLYCLINIC; ASSISTANT TO THE CHAIR OF LARYNGOLOGY, DETROIT COLLEGE OF MEDICINE, ETC.

THE inaccessibility of the lower respiratory tract and the belief that these membranes are too sensitive for local medication have necessitated that the local treatment of this region be largely by internal medication. Sprays are of value in the larynx and trachea, but do not reach the bronchi. Vapors and nebulæ penetrate the smaller bronchial tubes under favorable conditions, but the amount of the drug reaching the diseased part is so small that little benefit results.

Horace Green of New York is credited with being the first to use intratracheal medication. As early as 1838, he made applications of nitrate of silver to the trachea by passing a sponge saturated with the solution. He reported excellent results, but his treatment was considered too heroic to meet with general favor. The next step was the introduction of liquids into the trachea by means of a suitably-constructed syringe.

While this was practicable, and in skilled hands easily accomplished, the procedure was condemned by many, as the solution caused considerable irritation and coughing. Watery solutions with or without glycerin, and even mucilaginous solutions were found irritating. This method has met with greater success in the last few years, since it has been found that oily solutions of suitably-selected drugs are not irritating.

The writer believes that this method of treatment offers a valuable means of relieving many bronchial and pulmonary affections not readily amenable to ordinary medication. It seems rational that the same beneficial results which we are accustomed to get in treating mucous membranes generally should follow local medication of the trachea and bronchi. That this is true is amply proved by the systematic use of this method.

It is interesting in this connection to consider whether the normal mucous membrane of the respiratory tract is free from micro-organisms in health. Experimental observations, both in men and animals, indicate that the mucous membrane of the trachea and bronchi are sterile, or nearly so, and that the normal mucus of the bronchi, as of the nose, does not offer a suitable medium for bacterial growth. While such is the condition in health, in disease, micro-organisms of great variety and abundance are constantly found in the bronchi. Even in acute bronchitis micro-organisms have been found in abundance, and Ritchie from his experimental studies considers that this disease is infective, although not due to any single, specific organism. The organisms most commonly found were the diplococcus pneumoniæ and the streptococcus. The influenza bacillus appears to be frequently found in acute bronchitis even apart from epidemic influenza. Besides the above mentioned organisms, a number of others have been found occasionally. In chronic bronchitis and bronchiectasis, organisms are constantly found in the sputum.

In pulmonary tuberculosis, as long as the tubercle, with its specific germ, is alone present in the lungs, we have a condition which usually develops slowly. The patient has a hacking cough, slight fever, little expectoration, and few, if any toxic symptoms. If, however, the consolidated area becomes the seat of infection with organisms, such as the streptococcus or the staphylococcus, a different picture presents itself. The patient then gives distinct evidences of septic infection, high fever, night-sweats, abundant mucopurulent expectoration and breaking-down of the consolidated area. It is this secondary infection that adds so much to the gravity of the disease and is a condition difficult to combat.

It is possible by intratracheal injections to medicate the entire bronchial tree, and, by absorption through the lymphatics, to reach all portions of the lungs. Experimentally, it has been found that pigments are readily taken up by the pulmonary lymphatics, and, in man, we are all familiar with the mottled condition of the lungs, due to absorption of carbonaceous particles. By the intratracheal method from one to two drams of a menthol-guaiacol solution in oil can be introduced directly into the trachea without much discomfort to the patients. They can feel the solution in the bronchial tubes and the odor of the drugs can be detected in their breath for hours after the treatment. Some have said that they could taste the drugs in the expired breath for twenty-four hours after its introduction, indicating that the effect is more than a transient one.

In the congestive stage of acute bronchitis, the limited experience of the writer with this method of treatment would show that it is not adapted to this stage. It causes considerable irritation and possesses no advantage over the methods commonly in vogue. In the later stages of an acute attack where considerable thick, tenacious mucus is secreted, marked benefit will result from intratracheal medication. In chronic bronchitis it is of special value. Many patients whose digestive organs have been upset by ineffectual internal medication can be promptly relieved by this method. It quickly relieves the cough. At first, the expectoration of mucus is increased and rendered less viscid; after a few treatments the amount of the mucus rapidly lessens and with it the cough. In one case of bronchiectasis under the writer's care the mucopurulent expectoration cough and dyspnea rapidly decreased. The patient felt a decided relief after each injection, especially as regards the dyspnea.

As to its value in pulmonary tuberculosis, the writer feels that his observations have not extended over a sufficient length of time to warrant definite conclusions; but certain tentative deductions may be drawn from observed results. In the early stage when the infiltrated area was very small, when the afternoon fever was slight and the general nutrition not seriously impaired, it has seemed to be of benefit in lessening the liability to secondary infection and intercurrent attacks of bronchitis. In the second stage, when well-defined consolidation with bronchial breathing was present, and when secondary infection with its usual train of toxic symptoms was marked, decided and prompt benefit resulted from this method of treatment. Gastric irritation, which interferes with nutrition, frequently occurs in these patients from too active use of drugs.

This method offers us a means of controlling the local and general symptoms due to the pulmonary disorder, without recourse to internal drugging. It controls the cough more promptly than the usual methods and, though the expectoration is temporarily increased, the amount soon decreases and is more easily expelled. The fever and night-sweats decrease as the expectoration lessens and in proportion as the secondary infection is overcome. The dyspnea is improved and a general sense of relief folows its use. In the third stage, when the pulmonary tissue is rapidly

breaking down, when the cough, fever, night-sweats and dyspnea are marked, all that can be expected is a more or less temporary relief from the distressing symptoms. The writer does not claim any specific effect from this mode of treatment, but has seen marked and in a few instances permanent benefit in cases that have not done well under other methods of treatment. In all cases in which it has been used some relief has followed.

The results following its use in asthma are interesting and warrant further trial. This disease seems to be dependent upon many different factors, but from a practical standpoint we may consider it as a neurosis, with an exciting cause. We are also accusomed to divide our cases into the spasmodic and bronchial types. The value of intratracheal injections in the spasmodic type depends upon its power of relieving the acute symptoms and lessening the frequency of attacks. One case, that of a boy of fourteen, who for years had at night spasmodic attacks of dyspnea which were so severe as to prevent sleep, was markedly relieved by the intratracheal injections. The exciting cause in this case seemed to be in the nose and treatment was directed towards relieving the nasal obstruction. Before the nasal treatment was begun, the injections controlled the spasmodic attacks so that the patient could sleep all night, whereas before he was obliged to sit up several hours three or four nights a week. The correction of the nasal trouble has given him permanent relief, but during damp weather he occasionally has mild attacks, which are controlled by the injections.

Bronchial asthma is very satisfactorily relieved by the injections. The bronchial element, with the constant cough and expectoration is readily controlled, while the spasmodic attacks are lessened in frequency. In the case of a professional friend, who had bronchial asthma following an attack of acute laryngitis, the spasmodic attacks and dyspnea were relieved within a few minutes after the injection. In another case of bronchial asthma in an unmarried woman, aged twenty-eight, the benefit was marked. The patient gave a history of asthma and nasal trouble for two years. Her nose had been operated upon by a competent rhinologist, without modifying to any extent her asthma. When she first came under observation she showed the effects of incessant coughing and lack of sleep. She would wake about two or three o'clock every morning with a severe coughing spell, accompanied by dyspnea. This would last from three to four hours. Her general nutrition and digestion were poor. Her asthmatic attacks were worse during her menstrual periods. She was very nervous. The physical signs in her chest were those of bronchial asthma. The writer in the management of this case after a careful examination had three problems before him: First, the condition of the digestive organs, which in this case seemed the most probable exciting cause; second, the general underlying neurotic taint, which was very manifest; and, third, the bronchial element. The first two problems were met by the careful regulation of the mode of life, diet, etc., and the use of such drugs as would improve her digestion and tone up her nervous system. The third problem was met by intratracheal injections. These injections gave prompt relief, so that in less than a week she could sleep at night without inconvenience. The permanence of the benefit was undoubtedly influenced by the general treatment, yet the marked relief which followed the injections, when other methods had failed, was convincing proof of their efficacy.

Let us consider now some of the details to be observed in the use of this method. The writer has used the Muir tracheal syringe in his work. This syringe has a glass barrel holding four drams, with a cannula suitably bent for tracheal injections. A strong light, such as is commonly used in throat examinations, is advisable, although not absolutely essential. A laryngoscopic mirror is used to guide the cannula into the larynx. The technic is similar to laryngeal applications. A little practice and the observation of a few special rules will enable one quickly and easily to introduce the injection into the trachea with the minimum amount of discomfiture to the patient. The patient should hold his tongue out and the operator should introduce the cannula of the syringe guided by the mirror, during a deep inspiration. If the patient inhales gradually, slowly and steadily, the cannula can be introduced between the vocal cords, and from one to two drams injected without inconvenience. The operator should introduce the fluid gradually and steadily, not in spurts, and the whole amount must be introduced before the end of inspiration, otherwise choking will take place. The technic is comparatively simple in most cases, but in a few instances much dexterity will be required. The operator should explain to the patient just what is required on his part, and he can confidently assure the patient that the introduction will not cause pain. The choking sensation can be largely controlled voluntarily if the patient will steadily inhale during the injection. This may be difficult the first few times, but the knack can usually be acquired without trouble. The success of the method depends upon the co-operation of the patient and a reasonable degree of skill on the part of the operator. Unless one has the intelligent co-operation of the patient it is useless to attempt treatment by this method. This treatment is no more disagreeable than other applications to the throat and larynx.

The only cases where the writer has failed in the use of this method were dispensary patients where it was impossible to make them understand what it was necessary for them to do. After the cannula is in the trachea it is not necessary to keep the mirror in the throat while making the injection. If the curve of the instrument is not right, or if the operator is not careful, the injection may be made into the esophagus instead of in the trachea. One can easily tell

when the fluid is in the trachea by the coughing. The patient's sensations are also a guide. The injection runs into the ramifications of the bronchi and can be felt for a considerable length of time. Sometimes the patient feels the injection more on one side than on the other. This can be regulated to a certain extent by the patient inclining the body to one side. It also depends upon the inclination of the cannula in the trachea. The injection is usually felt more on the affected side, due presumably to greater sensitiveness of the mucous membrane of the bronchi on that side.

There are certain conditions that make the procedure difficult. Peculiarities in the shape of the epiglottis render the introduction of the cannula difficult. The epiglottis in one case under treatment is curved laterally and bent backward so that the cannula has to be introduced through a narrow slit.

Where the throat is sensitive, as in tuberculous laryngitis, it is advisable to spray the parts with a four-per-cent. solution of cocaine before using the injections. Nervous patients, especially those with sensitive throats, offer some difficulties, but these can be overcome in nearly every instance if patience and skill be used. Early in the writer's experience, he was in the habit of using a cocaine spray before the first injection, but this practice has been found unnecessary in the large majority of instances. When the larynx is placed high and the epiglottis upright, the cannula can be introduced easily without the mirror by simply pressing down the base of the tongue.

The selection of drugs and more especially the proper choice of a vehicle are very important. The writer's experience has been limited almost entirely to pure olive oil as a vehicle. This is non-irritating, easily absorbed, facilitates expectoration of the mucus and adds nutrition to the body in proportion to the amount used. In choosing drugs to be dissolved in the oil, preference has been given to those having antiseptic or sedative action. The list of drugs that have been used is a long one. The writer will confine himself to those which he has used. Creosote, 1 to 2 per cent., was used in the first few cases, but has been replaced by a solution containing menthol, 2 to 4 per cent., and liquid guaiacol, 1 to 2 per cent. Camphor is frequently added in the same proportion as the menthol. The writer has used ichthyol, 2 per cent., also iodoform, 2 per cent. A limited experience with chloretone, 2 to 4 per cent., combined with camphor-menthol, shows it to be of service. After the solution has been prepared, filter it through cotton or fine cheese-cloth to remove any sediment, then sterilize by placing the bottle in a water-bath and boiling the water for at least forty minutes. Of the various solutions mentioned above the menthol-guaiacol has been used more than any other.

The writer from his own personal experience with this method feels justified in drawing the following conclusions:

1. It is of no advantage in acute bronchitis, at least during the congestive stage.
2. It is of distinct advantage in subacute and chronic bronchitis.
3. It is of positive benefit in bronchiectasis.
4. It is valuable in pulmonary tuberculosis, relieving many of the symptoms, especially those due to secondary infection.
5. It quickly relieves the distressing symptoms of asthma. The amount of relief and the permanency depend largely upon the predisposing and exciting causes.
6. It in no way interferes with other lines of treatment.
7. The writer has never seen harm follow its use, although in a very few instances it excited severe coughing for a short time.

PRESBYOPIA: ACCOMMODATION: ASTIGMATISM.

BY NORBURNE B. JENKINS, M.D.,
OF CHICAGO.

GLASSES are fitted to readers about forty years of age by rules and tables. The rules and tables in standard text-books have not been changed in fifty years and are supposedly based on tests of emmetropic or perfect eyes. Farsighted, nearsighted and astigmatic eyes made perfect by glasses may be used to make up tables, for emmetropes are hardly available, since about one person in a hundred is emmetropic.

In youth the focusing muscle can so mold the soft crystalline lens that fine print is distinct as near as three or four inches to the eye. As age advances the lens hardens and decreases the active focusing power until fine print, such as footnotes, can no longer be read at the proper reading distance. This condition is presbyopia. The active focusing power gradually decreases until about the seventieth year when the focusing muscle loses nearly all power over the hardened lens, and at this age the perfect eye needs for reading a magnifier equal in strength to what the active focusing power was just before presbyopia came on.

The statements here given are in standard text-books of ophthalmology: "Presbyopia is present in the perfect eye when fine print can no longer be read at eight and one-half inches from the eye." "After the age of forty-five perfect eyes need magnifying glasses for reading." "Some perfect eyes need magnifiers as early as the fortieth year." "After forty-five readers without magnifiers are nearsighted." "The perfect eye requires for reading an active focusing power of 4.5 D." "In presbyopia select the weakest magnifier which makes fine print distinct at eight and one-half inches from the eye. If the eye is farsighted, nearsighted or astigmatic, correct the imperfection and add the weakest magnifier which makes fine print distinct at eight and one-half inches."

Eight and one-half inches has little to do with presbyopia or prescribing glasses.[1] Those with perfect eyes who can read fine print at nine or

ten inches from the eyes are not presbyopic. If fine print can be read at nine or ten inches with glasses which correct all farsightedness, nearsightedness and astigmatism there is no presbyopia. The proper reading distance for people past middle age is *more,* often *much more,* than fourteen inches. If the eye in age sees fine print distinctly at eight and one-half inches, the glass is too strong and reading can not be held far enough from the eye.[2] The more print is magnified, the nearer it must approach the eyes, so, too, powerful magnifiers harm the aged by making too much convergence necessary and by doing all of the work of the focusing muscles.

In many presbyopes with uncorrected astigmatism, magnifiers fitted by the eight and one-half inch rule may apply, but this is not correction; it is injurious substitution by magnifying. In astigmatism, if the proper glass is not used, magnifying must make up for imperfect definition. If print is magnified, fineness and sharpness of outline are not so necessary, but the nearer must reading be held to the eyes. In old age if there is no astigmatism, or even with astigmatism perfectly corrected, a glass that makes fine print distinct at ten, eleven or more inches may do for continuous reading. If astigmatism of 1 or 2 D. is uncorrected, continuous reading is not possible unless the crystalline lens is soft enough, or unless there is enough magnifying to make fine print distinct at about eight or nine inches. If high astigmatism is uncorrected there must be for continuous reading either an active focusing power of more than 4.5 D. or its equivalent in magnifying, and this would make fine print distinct even nearer than eight and one-half inches.

Astigmatism is usually overlooked or imperfectly corrected. In uncorrected astigmatism, reading may be held so close that convergence fails and only one eye is used, the sight of the other is suppressed and in time becomes more or less amblyopic from lack of proper use.[3] The aged can not hold print close and use both eyes at the same time. Presbyopes who hold print close read with only one eye. If one eye is out or if the sight of one eye is suppressed the aged can read with nearly any magnifiers.

Most presbyopes with proper glasses can read nearly or quite as much as they ever could. If there is no astigmatism and the eyes are exactly alike, the presbyope often selects proper glasses for himself, is easily fitted, but not by the eight and one-half inch rule in the text-books.

Until the fiftieth year most people with farsighted, nearsighted and astigmatic eyes can read fine print, with glasses which totally correct these imperfections. Many at fifty-five years of age and some at sixty years can do this. Many, with normal distant vision, at fifty to sixty years of age have never used reading glasses, and yet are a trifle farsighted or astigmatic.

Presbyopia does not come at the fortieth year. Those who need glasses this early have farsightedness, nearsightedness or astigmatism. Belladonna is not used in testing the eyes of the aged, so the focusing muscle may mask imperfections after the fortieth year almost as much as earlier. Latent imperfections may exist until the sixty-fifth year.

Presbyopes who read several hours daily can not be fitted by rules in text-books. Aged readers do not need as much active focusing power as 4.5 D. About the seventieth year the nearsighted of 3 D., 13 inches, need no reading glasses; the farsighted of 3 D. need magnifiers of about 6 D., while the perfect eye needs a 3 D., 13 inch magnifier. The glass required and the distance at which fine print can be read depend upon the habitual reading distance, the kind of imperfection and upon the active focusing power.

Rules and tables can not be followed in fitting glasses. The table here given may aid in fitting the eyes of readers. Total farsightedness, nearsightedness and astigmatism are first corrected and the magnifier given in the tables added.

Age.	50	55	60	65	70	75
D.	0. to .75	.0 to 1.5	.75 to 2.	1.5 to 3.	2.to 3.5	2.5 to 4.

The following is a near-point table showing the distance at which fine print can be read at different ages. It is based on imperfect eyes, but glasses were used which corrected the total farsightedness, nearsightedness and astigmatism, but not presbyopia. The table is only approximate for the near point varies a little in different persons of any given age, even in eyes of any given imperfection. The active focusing power is somewhat greater in astigmatic, in farsighted and even in many nearsighted eyes,[5] than in perfect ones. The near point is given in inches and centimeters and the active focusing power in diopters.

Age.	10	15	20	25	30	35	40	45	50	55	60	65	70
In.	2 2-5	2 4-5	3 1-5	3 3-5	4 2-5	5 1-5	6 2-5	7 3-5	9 1-5	12	(20)	(50)	(100)
Cm.	6	7	8	9	11	13	16	19	23	30	(50)	(125)	(250)
D.	16	14	12	11	9	8	6	5	4	3	2	1	.5

In youth the active focusing power (amplitude of accommodation) depends almost entirely upon change of shape and but little upon change of position of the soft crystalline lens. In age the hard lens changes much in position and but little in shape and yet there may be considerable range of focus. Change of the size of the pupil and of the opening between the eyelids may directly contribute to the active focusing power. Pupillary contraction is probably a greater aid in reading than forward movement of the lens. The power of the pupil is best studied in lensless eyes. Cocaine or atropine is instilled until complete dilatation. A given magnifier now makes fine print distinct at a certain distance. If eserine is afterward used the pupil contracts to its utmost and the print will be distinct at a nearer distance with the same magnifier. In perfect eyes, or eyes made perfect by glasses, the activity and size of the pupil change but little with advancing years.[6] Is the small pupil of adults

and the aged normal? It may indicate eye strain, for it is not present in perfect eyes.

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MEDICAL PROGRESS.

Agglutination of Pseudodiphtheria Bacilli by Antidiphtheritic Serum.—Scientific investigations have recently tended to confirm the opinion that the so-called pseudodiphtheria bacillus and the Klebs-Loeffler organisms are closely related species and that possibly under certain conditions they may be transferable forms. This has been gathered from many similarities in their characteristics. The subject is of vital importance in its relation to the bacteriological diagnosis of diphtheria. CH. LESIEUR (*Comptes Soc. de Biologie,* Aug., 1901) reports the study of seventy varieties of diphtheria and pseudodiphtheria bacilli from the standpoint of agglutination by antidiphtheritic serum. His work shows that this property is an inconstant characteristic of the true Klebs-Loeffler bacillus and is in no way related to its virulence. Furthermore that certain varieties of this organism can be agglutinated by the serum of horses immunized by cultures, while they do not react to the serum of horses immunized by toxins. The pseudobacillus conducts itself toward these sera precisely as does the true organism and by this means cannot be differentiated from it. This fact constitutes a new presumption in favor of the identity of certain species of pseudodiphtheria bacilli and the true diphtheria organism.

Navel Infection of the Newborn.—This subject is of interest on account of its somewhat frequent occurrence and the varied bacteriological conditions which underlie it. M. WASSERMANN (*Virchow's Archiv,* B. 165, H. 2) reports the study of eleven cases occurring in the Charity Clinic at München. All of the cases were fatal. On autopsy all showed the umbilical arteries full of thrombi and pus throughout their entire extent. In seven there was present a pneumonia with hemorrhagic fibrinous exudation accompanied by necrosis and abscess formation. Four were submitted to bacteriological examination. In all of these cover-slip preparations of the pus and sections of the lungs showed a bacillus whose morphological appearances were identical with those of the bacillus pyocyaneus. Its cultural and staining characteristics also corresponded with those of that organism. It was pathogenic for rabbits on inoculation and at death was found in their heart's blood. It is evident that this organism was the producer of the navel infection. This work increases the evidence in favor of the opinion that under certain conditions the bacillus pyocyaneus is a pathogenic organism for man.

Lecithine and Elimination of Uric Acid.—The action of lecithine upon the phenomena of nutrition has recently excited much interest by reason of the favorable results following its use in several of the so-called wasting diseases. It has been supposed that the elimination of uric acid is diminished by its use. This is an important question, as it concerns the destruction of the nucleins. The most recent study along this line comes from ALY ZAKY (*Comptes Soc. de Biologie,* Aug., 1901) who investigates the subject experimentally on two men and one woman. These were placed upon a stipulated diet and each was given thirty centigrams of lecithine daily. The estimations of the amount of uric acid excreted were obtained by the method of Tolin. There was an increase in the total amount of nitrogen excreted with a diminution of phosphoric acid. The amount of uric acid was, as a rule, decreased. All showed an increase in weight inside of ten days.

Bacteriology of Abscess Pus.—The bacteriological study of abscess pus is always of interest as conducive to the knowledge of the diversified microbic conditions which underlie circumscribed inflammation. W. SILBERSCHMIDT (*Ctlblt. f. Bak.,* Aug. 8, 1901) reports an interesting find in a man, fifty-eight years of age, who developed an abscess of the thigh. On operation the pus was found to be of a dark-brown color and very foul. Death followed in seven days. On bacteriological examination four organisms were found in the pus, as follows, a few cocci, a fair number of spindle-shaped bacilli, many long threads and many sharply curved spirilli. The last three organisms were also found in the lungs. Inoculation of the pus into guinea-pigs and mice produced abscesses from which the last three organisms were recovered. All of these organisms could be cultivated on the ordinary media, glucose-agar, agar, bouillon and gelatin, but the last three refused to grow after several transmissions. He believes that the process is to be regarded as a mixed infection due to the presence of the spindle-shaped bacilli, threads and spirilli.

Lecithine in Tuberculosis.—The favorable influence of this substance when administered to tuberculous patients has been announced in many quarters as the result of clinical observation. H. CLAUDE and ALY ZAKY (*Comptes Soc. de Biologie,* Aug., 1901) have recently studied the subject from both experimental and clinical standpoints. They subjected guinea-pigs to inoculations with tuberculous sputum and pure cultures of the bacillus. To some of these lecithine was administered in an oily emulsion containing 5 centigrams to the cubic centimeter. Others were preserved as control animals. These lost greatly in weight as the result of the tuberculous infection; some of them whose weight was 670 grams at the beginning were reduced to 490

grams at death. Those which received the lecithine suffered a much less reduction of weight and some even showed an increase. In a series of these animals which weighed collectively 1680 grams at the beginning this was increased to 1800 grams at death. It could not be said, however, that by this treatment the duration of the infection was materially prolonged. They observed clinically two cases of pulmonary tuberculosis in which the diagnosis had been established by microscopical examination of the sputum. To each of these was administered daily six pills of five centigrams each. Both increased in weight, one showing a 900-gram increase in six days. They do not think that lecithine has any specific effect upon tuberculous infection, but that it happily modifies the nutrition, making it more active, and diminishing the excretion of phosphorus. They thus consider it a valuable adjunct in the treatment of tuberculosis.

Negative Chemiotaxis of Leucocytes.—This phenomenon was first described by Metchnikoff in 1884, who, in examining the organs of rabbits and guinea-pigs very susceptible to anthrax and dead of this affection, remarked that phagocytosis was not observed here in spite of the fact that the leucocytes maintained their ameboid movements and hence were not poisoned. Since then it has been observed many times that a negative chemiotaxis of the leucocytes took place in animals very susceptible to a given organism when infected with it. A. ZILBERBERG and J. ZELIONY (*Annales de L'Institut Pasteur,* Aug. 25, 1901) have studied this question with respect to the infection of rabbits with the organism of fowl cholera to which they are especially susceptible. They injected into the auricular vein of three rabbits 4 c.c of an emulsion of 20-hour virulent agar cultures of this organism. Each rabbit received the contents of three or four such cultures. They were then killed at intervals of four, six and eight minutes after inoculation and microscopical study was instituted. They also submitted rabbits to subcutaneous and intraperitoneal inoculation with this organism and made similar study. In order to ascertain if there was a poisoning of the leucocytes, they injected these organisms into the peritoneal cavity of rabbits in which an artificial leucocytosis had been previously produced; no phagocytosis being instituted they then injected non-virulent staphylococci cultures. In every case the leucocytes evinced a phagocytotic action against these staphylococci. These phagocytosis often observed after the inoculation of supposedly virulent cultures of this organism is due to the presence in the same of non-virulent as well as virulent bacilli. The absence of this phagocytosis is not due to a poisoning of the leucocytes, but to a true negative chemiotaxis. The leucocytes preserve this property until the death of the animal and are even able to distinguish between virulent and non-virulent organisms in artificial cultures.

Tubercle Bacilli in the Stools of Tuberculous Persons.—It is the general impression that, except in cases of intestinal tuberculosis, the demonstration of the specific organism in the stools of tuberculous persons is attended with the greatest difficulty. D. ANGLADE (*Comptes Soc. de Biologie,* Aug., 1901) reports the investigation of a series of tuberculous cases from this standpoint. He claims to have had no difficulty in demonstrating the presence of the specific bacilli in the stools of such, even when there were no indications of intestinal tuberculosis present. His method of examination is that employed in the ordinary microscopical study of this organism by staining with Ziehl's solution and decolorizing with hydrochloric acid. He thinks that the intestine is a favorite route for the elimination of the bacillus and that the fecal matter is more often a source of dissemination of this organism than is generally supposed. He advocates the proper disinfection of the stools in all cases of tuberculosis.

Nephrectomy and Spermatogenesis.—The influence of nephrectomy on the genital function has hitherto received little or no consideration. The importance of the subject from a practical standpoint has led GUSTAVE LOISEL (*Comptes Soc. de Biologie,* Aug., 1901) to experimental work along this line. He removed the left kidney from a dog and thirty-five days after the operation made histological examination of the testicles. He found the intercanalicular spaces filled with spherical granulations which stained an intense black and were soluble in chloroform. These were found almost exclusively in the protoplasm of the interstitial cells. In the same region a certain number of the blood-vessels showed chronic inflammation. These granulations were found in the interior of the seminiferous canaliculi in the following distribution: (1) Very numerous in the zone of epithelial transformation (spermatozoids); (2) less abundant in the spermatocyte zone; (3) only a very small number in the zone of multiplication (spermatogenesis). The spermatozoa seemed to be normal in the greater part. He believes that these changes signify the degeneration of certain cells and alteration of the internal secretion of the testicle. These observations are new and increased work should be done along these lines.

Dilatation of Narrow Esophageal Strictures.—According to the statements of A. HENLE (*Centralblt. f. Chir.,* No. 34, 1901) many esophageal strictures which permitted only the passage of small quantities of fluid have been rendered permeable by the method of Socin. This consists in letting the patient wash down with his fluid food a small leaden shot to which is attached a fine, high-grade silk thread. Through the gastrostomy wound this is fished or washed out and then larger and larger threads are pulled through followed by instruments. Finally the gullet is made passable to solids. The objection to this highly rational procedure is that the thread and

sinker can not be reached in the stomach. Henle proposes and has used with greatest success a thread with several small iron sinkers, placed about an inch or two apart. The "fishing" for these is done rapidly, surely, and safely with a sound like a urethral sound converted into a strong magnet by an electric coil about its handle. The patient feels the thread jerk when the sinkers are attracted, and often the contact click can be heard by the surgeon. The sound-magnet, of course, is introduced through the gastrostomy fistula. The apparatus is not expensive.

Inunction versus Injection in Syphilis.—Sixty-nine cases of syphilis, which have been under his care for more than a year continuously, and of which 37 received intramuscular injections and 32 inunctions of mercury, are reported by C. F. MARSHALL (*Lancet*, Aug. 24, 1901). Of those subjected to injections 16 had relapses and 4 had iritis; of the inunction cases 7 relapsed and only 1 showed iritis. The conclusion drawn is that, although the injections have the advantage of cleanliness and privacy, for some reason they are deficient in certainty and ultimate medicinal influence, perhaps through imperfect absorption.

Pathogenesis of Flat Foot.—The much-vexed question of the pathogenesis of flat foot is epitomized by DE VLACCOS (*Revue de Chirurgie*, No. 8, 1901) in the following terms: The diversity of synonyms also indicates the divergence of the theories as to its cause. Those commonly employed in France are tarsalgia, pes planus et dolorosus, and functional impotence of the peroneus longus, and are founded upon the theories respectively of arthritis (Gosselin), laxity of the tarsal ligaments (J. Guérin), relaxation of the dorsal ligaments (Le Fort), of the plantar ligaments (Tillaux), without any direct evidence of truth. All the lesions enumerated by the above hypotheses do certainly exist, but rather as secondary than as primary to the flat-foot. The real causal factors appear to be these. Vertical saw-cut through the sagittal median axis of the leg does not cut the middle of the os calcis, but rather between it and the internal border and often passes through or internal to that border itself in the normal subject. Hence the normal point of support in the foot at the os calcis is eccentric. Similarly the same plane of the saw-cut passes internal to the center of the astragalus, and only very rarely through its center. It is therefore easy to conceive why in some cases with this eccentric arrangement a twisting occurs so that at first a weakening, then a flattening of the plantar arch and finally an outward rotation occurs. At first the strong muscle tendons from the calf and in the sole of the foot with the ligaments resist, but finally something happens to break down the equilibrium. The os calcis is forced to rotate outward on its anteroposterior horizontal diameter, soon followed by the astragalus which then begins to strain at great advantage the calcaneo-scaphoid and the astragalo-scaphoid ligaments and joints. Faulty foot-gear undoubtedly is important, but must be regarded as rather secondary to anatomical error as delineated above. Perhaps its most direct action in accentuating the result of this faulty anatomy is that the external malleolus is pushed inward by contact with the shoe and therefore increases the rotation of the astragalus and os calcis.

Typhoid-Fever Bed-Bath Apparatus.—The Brand method of treating cases of typhoid fever, or at least the cold bath of some sort, is almost universally used now, but there is considerable difference of opinion in regard to the relative efficacy of slush or sponge baths as compared with the tub. The extra work necessitated by the tub-bath, together with the severe exertion on the part of the patient, has raised considerable doubt in the minds of many whether the tub really is of sufficient value to continue its use instead of sponge-bathing, especially since the tub is practically impossible in private practice. To avoid many of the disadvantages of the tub R. BELLAMY (*N. Y. Med. Jour.*, Sept. 7, 1901) has invented a special tub so arranged that a small wire mattress bed, on which the patient can be easily rolled, fits into the top of the tub and can be lowered into the water by means of small chains attached at each corner and regulated easily by a crank. Two nurses can thus give a tub-bath without any difficulty and also avoid any undue movement or exertion on the part of the patient. This would doubtless be very valuable in hospitals and could perhaps be employed at times in private practice.

Function of the Tonsils.—There has been such a wholesale removal of tonsils during the last few years that a reaction has now been started by some who believe in a more conservative treatment of the organ. Although we have found no function of the organ essential to the body welfare, no doubt its presence signifies that it is not without use. R. C. MATHENY (*Med. Rec.*, Sept. 14, 1901) believes that this lymphoid tissue which, together with the pharyngeal and lingual tonsils, forms a complete circle around the pharyngeal orifice and acts as a barrier to the passage of much that is deleterious to the organism. The presence of so much lymphoid tissue, the principal function of which is absorption, naturally leads one to believe that Nature has thus made an heroic effort to guard an important gateway. The fact that they are frequently inflamed may not indicate that they should be removed, but rather that they have received the toxic substance which might have caused greater havoc if allowed to enter the system elsewhere. He, however, does not argue so much against removal of the tonsils, for there are, of course, many which are very nefarious possessions, but rather he insists that the condition should be carefully observed and simple hypertrophy should not be considered an indication for operation.

Cause of Malignant Tumors.—Another parasite is now described as being the cause of

cancer and whether it may be later identified as the same organism that has been previously discovered by other persons is not known. J. E. BLAKE (*N. Y. Med. Jour.*, Sept. 14, 1901), in reviewing the work of Max Schüller on this question, says that he has positively found a parasite present in both sarcomata and carcinomata which has been isolated and when injected into the peritoneal cavities of guinea-pigs causes a similar growth. The secondary growths contain the parasite and it has again been isolated from them. The infectious character of malignant tumors would thus seem to be proven, but no one has yet found the organism outside the body.

Laryngeal Tuberculosis.—Laryngeal tuberculosis is one of the most painful and distressing diseases the physician sees and it is doubly unsatisfactory for the treatment seems almost useless, so far as local applications are concerned. ST. C. THOMSON (*Phila. Med. Jour.*, Sept. 14, 1901) says that the only two local methods of treatment which deserve any attention are the lactic acid and surgical procedures. The former is nothing more than a superficial caustic which could not in any way affect deep ulcerations or a perichonditis, except perhaps by increasing the irritation. Freudenthal, who has used it freely, states that "it ought to be dispensed with as antiquated and barbarous torture of the patients." So far as curettage is concerned many surgeons have employed this method in numerous cases without being able to report a single cure and eminent authorities have said that "the permanent radical cure of the local lesion of tuberculous laryngitis is not materially hastened by the various methods of treatment in any but an insignificant number of cases." The most satisfactory means of treating local lesions in the larynx are the same as when the lesion is located in any other part of the body and consist of attention to the general health and systemic improvement with local symptomatic sprays, etc. The specific cure for this disease has not yet been found, and until it has, the most rational means of improving the patient are found in assisting and fortifying Nature against its inroads.

Treatment of Whooping-Cough.—So little progress has been made in the treatment of whooping-cough that suggestions are gladly received and tried. T. J. MAYS (*N. Y. Med. Jour.*, Sept. 7, 1901) believes that this disease, as well as many pulmonary affections, is the result of irritation of the pneumogastric nerve and that the most successful mode of treatment is that which is applied locally to this nerve. Accordingly, counterirritation is used along the side of the neck immediately over the course of this nerve from the jaw to the clavicle. Gentle massage and kneading every two or three hours sometimes yield good results. A mustard plaster, two inches wide, reapplied till the full effects of the mustard are present is usually very efficacious. A combination of chloral, camphor and menthol may be used and in severe and obstinate cases he recommends the hypodermic use of silver nitrate. First, inject five minims of a 2½-per-cent. solution of cocaine; then detach the syringe from the needle and after filling the syringe with a 2½-per-cent. solution of silver nitrate, inject three to six minims of this solution by screwing the barrel onto the needle left in place.

Toxin and Antitoxin in Tuberculosis.—In 1895 Maragliano of Genoa pointed out the possibility of separating various toxic substances from pure cultures of tubercle bacilli. It was his purpose to utilize one of these toxins for immunizing horses, and in this manner to develop a specific antitoxin. L. FRENKEL and O. BRONSTEIN (*Berl. klin. Woch.*, Aug. 19, 1901) have produced toxins after the Maragliano method and have investigated the value of so-called antitoxic horse serum. They state that the antituberculous serum is harmless to men and animals. From experiments with guinea-pigs they conclude as follows: (1) A variety of derivatives are obtainable from cultures of tubercle bacilli; the most important of these derivatives are the tuberculous toxin (fluid and precipitated); the watery tuberculin and its precipitate; tubercle bacilli divested of fat (bacilli digrassati); (2) most of these derivatives are powerful poisons producing toxic effects in proportion to dose; (3) the injection of sufficient doses causes the death of animals with characteristic phenomena; (4) by means of small, but gradually increasing doses, animals can be immunized; (5) the serum of immunized animals possesses powerful antitoxic properties, which are capable of demonstration experimentally with relation to each of the toxins mentioned.

Infant Feeding.—After reviewing the various methods of modifying cow's milk to make it acceptable to an infant's stomach, C. G. KERLEY (*Med. Rec.*, Aug. 31, 1901) gives a table in which he combines cream, whole milk and water in such proportions that any desirable percentage can be easily obtained. He believes that during the hot months all milk should be heated to at least 155° F. for twenty minutes. It is rendered more indigestible in this way, but much safer. Peptonization is not successful, for when completely done the child will not take the bitter peptones and if only partially done the change is valueless. Cereal water added to the milk causes finer curds to form, but probably does not assist much in digestion. These diluents are useful on account of the nutrition they give rather than the mechanical assistance they offer. Cow's milk contains a large quantity of proteid in the form of casein which is represented by lactalbumin in mother's milk. To get rid of this indigestible casein in cases in which feeding is difficult, rennet may be used and the simple whey which is left may be given the infant for a few days, gradually increasing the fats in the form of cream. When the food is too strong, the appetite fails and if more is forced the child vomits. Fat in excess almost always causes colic and green, frequent

stools. Habitual colic, almost without exception, means too much proteid and it is one of the most frequent causes of habitual constipation. Sugar is most easily digested and seldom causes trouble.

Blood Examination.—The solutions in most common use for fixing the morphological elements of the blood in counting the red blood-cells with the Thoma-Zeiss apparatus are a 3-per-cent. aqueous solution of sodium chloride, Lugol's solution and Hayden's solution. The advantage of these solutions lies in the fact that they fix the corpusclar elements while they leave the blood plates unchanged. G. LA ROSA (*Centlblt. f. Path.*, July 15, 1901) has undertaken a series of investigations in order to ascertain which are the most advantageous solutions for this purpose. In addition to the above solutions he also employed the following: (1) A 1-per-cent. solution of sublimate to which .7 per cent of sodium chloride is added; (2) osmic acid solution, 1 to 4,000; (3) picric acid solution, 1 to 300; (4) tannic acid solution, 1 to 150; (5) Acquisto's solution; (6) Dotto's solution. He employed normal blood and also that of anemic and chlorotic patients. The picric and tannic acid solutions are not advantageous, since they cause an impairment of the morphological elements. The sodium chloride solution is to be discarded, because it alters the shape of the red blood-cells and makes their enumeration difficult. All of the others yield good results.

The Mechanical Reduction of Body-temperature.—By repeatedly tapping or striking the chest-wall with an elastic silver instrument resembling a paper-knife in shape, ERNI (*Corr' blatt f. Schweizer Aerzte,* Sept. 1, 1901) claims to be able to reduce the temperature of fever-ridden phthisical patients to an extent varying from 0.2 to 0.5°C. The instrument is held lightly between thumb and forefinger, and the entire chest-wall repeatedly struck, avoiding only the mammæ and bones lying directly beneath the skin, as the clavicle and sternum. The tapping is repeated every two days, each sitting being preceded by rubbing in a salve, such as a 15-per-cent. salicylic-turpentine preparation, to soften the skin. After being tapped for ten or fifteen minutes, the skin becomes very red; a dull ache is at first experienced by the patient, but this is rapidly succeeded by a feeling of comfort and well-being. The treatment is not advisable in women during menstruation, and is to be avoided in nervous individuals generally on account of the excitement it produces. The reduction of temperature by this method is explained as a purely physiological phenomenon, capable of demonstration in normal individuals.

Nasal Therapy in Neuroses.—Ten years ago, while observing a case of whooping-cough, it was noticed by L. KURT (*Wiener klin. Rundschau,* Sept. 1, 1901) that spasm of the glottis could be controlled by irritation of the conjunctiva or of the nasal mucous membrane. Since that time Kürt has employed stimulation of the nasal mucous membrane in the treatment of various neuroses of a spastic nature. The stimulation may be produced by various mechanical processes; for more persistent and powerful irritation quinine or pulverized sugar are used, or powdered rhizome of veratrum album. Among the conditions successfully treated by this means are laryngeal spasm, blepharospasm, *tic convulsif.* In rare instances epileptic attacks are said to have been controlled by strong irritation of trifacial branches. In asthmatics and in persons suffering from nervous cough the method does not succeed.

Treatment of Cancer by X-Rays.—The treatment of external forms of cancer by X-rays is reported to have caused healing or improvement in a series of cases persistently treated by F. H. WILLIAMS (*Boston Med. & Surg. Jour.*, Sept. 12, 1901). The exposure of the diseased area to the X-rays for a few minutes two or three times a week for several weeks, is in general what is required. Where the growth is extensive, a longer time is necessary; on the other hand in early cases ten exposures or even less may suffice. The cases treated by Dr. Williams include not only the smaller and lesser forms, but some which were inoperable. Diagnosis in all these cases was based upon careful microscopical examination. Some of the growths were typical epitheliomas; others were of the rodent ulcer type; others were clinically epithelioma, but microscopically were composed of chronic inflammatory tissue.

A Peculiar Characteristic of Malarial Blood.—If two drops of blood from different malarial patients be placed in contact under the microscope, it is noticed that after a minute or so the red blood-cells arrange themselves in groups and masses, each group consisting of from 5 to 100 erythrocytes. The leucocytes do not participate in the group-formation. The rouleaux of normal blood do not form under these conditions. This peculiar agglutination-power is acquired by normal blood by contact with malarial blood. As long as this phenomenon persists, malaria cannot be regarded as cured, according to the statement of GRIXONI (*Gazz. degli osped.*, No. 57, 1901). The agglutination reaction is destroyed by the action of quinine. Its continued presence is said to be of importance from the standpoints of diagnosis, prophylaxis and prognosis.

Cystitis, Pyelitis, and Pyelonephritis.—In a very complete article upon the diagnosis and treatment of the above conditions, T. R. BROWN (*Med. Rec.*, Sept. 7, 1901) gives many valuable hints. The great majority of such cases are due to infection with various micro-organisms (of which the colon bacillus is the commonest) which may reach the bladder exogenously or endogenously. Simple urinary hyperacidity may so closely simulate vesical infections that only careful microsopical and chemical analysis can determine the nature of the trouble. Prophylaxis is most essential, especially in all cases needing catheterization. While an absolute diagnosis of

renal infection can be made only by ureteral catheterism, a probable diagnosis can usually be made after a determination of the relation of albuminuria to pyuria is made and by a careful examination of the bladder around the ureteral openings. Speaking generally, in all cases of bladder infection, even where pyuria is of high grade, the albumin is slight, while in pyelitis and pyelonephritis there is much more albumin present. This point is especially important where ureteral catheterism is impossible. Contrary to most opinions a great majority of both bladder and renal infections are associated with acidity of the urine, that is, due to germs which do not break up urea. In nearly all cases of renal infection causing alkaline urine, after a time a stone is formed about the bacteria as a nucleus.

Tuberculosis and Disinfection.—Much diversity of opinion exists as to the value of various methods of disinfection when applied under different conditions to the bacillus tuberculosis. Practically the entire renovation of infected apartments has been deemed necessary for effective results. Recently FRANK STEINITZ (*Ztschrift f. Hygiene u. Inf.*, Aug. 27, 1901) has gone over the entire subject from an experimental standpoint. His researches were carried on by submitting tuberculous material to the action of various disinfectants and subsequent inoculation into guinea-pigs. Due precautions were taken in order that none of the antiseptic should be carried into the bodies of the research animals and thus lead to false conclusions. He experimented with fresh sputum, contaminated clothing and infected apartments. The disinfecting agents employed were iodine trichloride, formalin and formaldehyde, sulphate of copper, hydrochloric acid, alcohol and sublimate and sublimate alcohol. Fresh sputum should be received into receptacles which can be burned or disinfected by heat, or such sputum should be exposed to the action of a 1-1,000 sublimate solution for five hours. Those portions of dwellings which have been especially contaminated should be thoroughly washed with a 1-500 sublimate solution and all washable clothing should be soaked in such a solution for three hours. The entire dwelling should then be submitted to the action of formaldehyde gas.

Hereditary Syphilis and Tuberculosis.—The ultimate prognosis of this form of syphilis is discussed by KARCHER (*Correspondenz-Blatt für Schweizer Aerzte*, Aug. 5th, 1901). He believes with Hochsinger and Pott that the chances of eradicating all traces of it from the system by early and appropriate treatment are much better than is generally supposed. But while the majority of children with inherited syphilis, who have had even one thorough course of mercurial inunctions, show no further signs of this malady, their susceptibility to tuberculosis in its various forms is much greater, apparently, than that of non-luetic children. Of thirty cases treated and discharged as healthy from the Children's Hospital at Basel, between 1876-1896, Karcher was able to hear of but sixteen. Of these six had died in infancy, five were found to be suffering from tuberculous affections, and the remainder were considered perfectly healthy. Karcher urges that mercurial treatment be instituted in all cases as soon as possible and be diligently carried out, not alone for suppressing present hereditary syphilis, but as a guarantee against future manifestations, as well.

Tuberculous Bacilli in Butter.—This subject was first brought before the profession in 1899 by researches carried on in the Hygienic Institute at Breslau. Since that time a vast amount of investigation has been carried on along this line and many workers have announced the frequent occurrence of so-called tuberculosis-like bacilli in butter. These organisms have practically the same staining reaction and morphology as the tubercle bacillus, but are non-pathogenic for research animals. Very recently F. KERR and M. BENINDE (*Ztschrift f. Hygiene u. Inf.*, Aug. 27, 1901) have submitted this subject to extensive examination. They conducted their investigations by fluidifying various specimens of butter and the subsequent inoculation of such material into guinea-pigs and rabbits. The former were inoculated intraperitoneally and the latter into the anterior chamber of the eye. After various intervals these animals were submitted to bacteriological and pathological examination. Forty-five specimens of butter were thus investigated in two series of studies. In the first series 11.1 per cent. and in the second 15.5 per cent. showed the presence of true tubercle bacilli. In 15 cases so-called tubercle bacilli were found. A contaminated butter-source can continuously produce infected butter or such may be only temporary. In all butter examinations for the presence of this organism, Obermuller's method is to be earnestly commended. In this work microscopical examination cannot be relied upon to differentiate true tuberculous organisms from the tuberculosis-like bacilli. In infected milk the true organism may be present in the skim milk, buttermilk, cream or butter made therefrom, but the latter two are liable to the greatest contamination. The manipulations through which the milk is passed in the manufacture of butter have no influence in separating the bacilli from the milk.

Pasteurization of Cream and Tuberculous Butter.—Diversity of opinion exists as to the efficiency of the pasteurization of cream in the prevention of the spread of tuberculosis by butter; also as to whether this process alters the nutritive value and taste of the butter. F. HERR (*Ztschrift f. Hygiene u. Inf.*, Aug. 27, 1901) studies this subject by the observation of the effect of different temperatures and various time exposures to such upon infected butter. This was also submitted to chemical examination in order to ascertain the change, if any, in nutritive value. He recommends that cream be exposed to pasteurization at 85° C. for two minutes. This is amply sufficient for the destruction of any tubercle bacilli present and has no effect upon the nutritive value or taste of the butter.

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TRAITORS IN THE RANKS.

IMMEDIATELY following the death and autopsy of the late President, there appeared signed articles in the daily press from several prominent physicians in this city, and an editorial in a leading medical journal, openly criticizing the physicians who attended President McKinley in a manner that has stung the whole medical fraternity into expressions of shame and scorn—shame that the editor of a journal that has always upheld the honor and dignity of the profession should have stooped from his high position to traduce by innuendo and covert criticism the medical men who attended the late President; scorn that any physician should have sunk to the level of the scandal mongers of the sensational press and deliberately suggest to an excited and believing public weapons of suspicion to be used at random against the men who have handled this famous case.

It can readily be imagined that it must have been trying to the yellow journals that the X-ray apparatus was not used, and that they were defrauded of a skiagram of the dying President; but that any physician should sneer at the conscientious conclusions reached by the anxious surgeons to dispense with the X-rays and should state concerning this opinion that "it seemed safer to guess than to be sure" is, we feel, little short of an insult. "What excuse," is asked, "must be offered to the public for the utter inability to find the bullet even in the dead body?" But why, we ask, should the sympathetic, overwrought public think of demanding excuses from the medical men who by their strenuous efforts prolonged, for a week, the life of the doomed President, unless the idea had been suggested? To hint to the public that they are aggrieved and that they have a right to ask the surgeons to explain "why they allowed a lost ball to be buried with the victim's body" is little short of trying to make the Nation's tragedy a popular spectacle.

It is not, however, this gallery play that deserves the severest condemnation. It is the subtle way in which many of these articles have been worded so that while they seem to mingle praise for the surgeons with lamentations over the inevitable, they nevertheless convey to the reader a startled sense of suspicion and alarm that all was not done that might have been done. We are ashamed of this utter violation of professional standards, of the manifest unfairness of making charges when the accusers could not possibly be in possession of the full details of the case, of the lack of charity in dealing treacherous, underhand blows to the few and of this holding up to public criticism a vicious cartoon of medical men so prominent that the entire medical profession must bear the scoffs. It is these things that have amazed, pained and angered the American medical brotherhood.

To so cruelly and maliciously hint that a "fatal blunder in diagnosis had been made," especially after the autopsy had demonstrated the necessarily fatal character of the wound, is evidence of a very low standard of professional ethics, and it is not to be wondered that the attending surgeons and the medical profession of the country should feel the affront and demand an apology.

THE INTESTINE AND ITS BACTERIA.

ALTHOUGH scientific investigation has accomplished much toward the elucidation of the many unsolved problems which are connected with different physiological and pathological processes from time to time inaugurated in the human body, the full significance of the intestinal bacteria to such processes has not been as yet fully appreciated. This is, without doubt, very largely

due to the great variation in the chemical composition of the intestinal contents which places before us a vast number of different nutrient conditions very few of which we are able to reproduce artificially.

The intestinal secretion acts as an adjuvant to the pancreatic and albuminoid ferments and has a bactericidal action upon micro-organisms. By its alkaline reaction it tends to neutralize the acidity produced by the digestion of the carbohydrates and the action of bacteria. The intestinal contents include all the nutritive principles necessary to bacterial life and being of the proper reaction they contain an enormous number of micro-organisms. These may be classified as obligate and facultative intestinal bacteria, different portions of the intestinal tract possessing their own peculiar obligate microbes.

Investigation has shown that the vast majority of foreign bacteria which are introduced into the intestinal tract in health perish and cannot be regained from the feces, thus proving that the body in this location is provided with means of protection from infective invasion. Research has also shown that in diseased conditions of the intestinal mucous membrane this protective power is very seriously impaired, so that foreign organisms introduced at such a time are recovered from the feces with comparative ease. The reason that the obligate intestinal bacteria are not also destroyed by these means is to be ascribed to acclimation of these organisms to the environment in which they live. The meconium is sterile, and all bacteria are originally introduced into the intestine from without, yet it has been impossible to produce sterile feces, except in the first days of life, by the feeding of sterile food, because the obligate organisms already present in the intestine are capable of indefinite multiplication.

The ability of these obligate bacteria, especially the colon bacillus, to assume pathogenic properties has in recent years been much discussed. There seems to be no doubt that when this organism wanders from its normal habitat and invades other regions of the body it may produce diseased conditions, but carefully conducted bacteriological investigations have conclusively shown that this tendency has been overestimated. As to whether this organism ever plays a pathological rôle in its normal location is somewhat doubtful, but it is probable that under conditions which materially lower the natural protective power of the intestine such may occasionally be the case.

Much that is illusory has been written and accepted in regard to the bactericidal action of many agents which are introduced into the intestine with the idea of destroying or inhibiting the growth of foreign pathogenic bacteria. Although at first sight an apparently feasible idea, careful thought will show that the employment of such means is in all probability harmful rather than beneficial, as a greater inhibiting action is exercised by these substances upon the natural protective functions of the intestine than upon the micro-organisms present. This is to be gathered by analogy from the effect of these substances when employed for a like purpose in other regions of the body. The widespread employment of intestinal antiseptics cannot be accepted at the present time as on sound foundation, as their use is based upon incomplete and faulty deductions and their employment fosters the delusion that we are employing scientific medication. Until we shall be supplied with means by the use of which we can accentuate the natural protective functions of the intestine the most logical method of ridding the tract of foreign pathogenic bacteria is that which seeks in diseased conditions to restore to the intestine its normal protective power.

THE MENOPAUSE.

In spite of what has been written on this subject in recent years, many practitioners, especially among the older men, cling to the fallacy that the change of life is a critical, that is, a dangerous time, that the profuse hemorrhages which often accompany it are in some way necessary and not to be avoided, that the whole train of gastric, nervous, and other disturbances are in some mysterious way a part of Nature's economy in passing a woman from the childbearing period to that which lies beyond it.

Consequently, those who hold such views simply follow a plan of masterly inactivity, the expectant plan it is called, leaving Nature to do the bad work and in due season provide the remedy—perhaps. It is strange that the instructive lessons which have been taught by those who pass the menopause prematurely have been apparently lost by so many. Here are thousands of women who through the loss of their essential genital organs have anticipated the change of life. They have been distributed over every portion of the civilized world, so that it would be strange, in-

deed, if some of them had not come under the eye of every observant physician. They have had no hemorrhages, at least, that is the rule, for in only ten per cent. of those from whom the ovaries have been removed do the menses persist. The nervous phenomena are common enough and in many cases the doctor is called upon to relieve such troubles. With the exception of bleeding the experience in a great many of the cases of premature menopause is not dissimilar from that which occurs at the ordinary menopause. Hemorrhage, therefore, is plainly not a necessity, and the other phenomena can often be relieved by a careful and intelligent mode of procedure.

It is not difficult to outline a plan of treatment which will apply to very many of the women who are passing through the menopause at the customary period of life, that is, between the forty-fifth and fiftieth year. The universal accompaniment of this period is the nerve shock which attends vasomotor spasm and paralysis, the flushing or pallor, and the uncomfortable sensations, nausea, vomiting, weakness, etc., which a large proportion of women experience, especially during the first year after the menses become irregular or have ceased. These phenomena are usually inevitable and it is well to recognize this fact and mitigate them as far as possible. Probably no medicament is of greater service for this condition than the bromides, especially sodium, or ammonium, or strontium, given at regular intervals, twice or three times daily, in five-, ten-, or fifteen-grain doses as the condition may indicate. Hemorrhage during the menopause is not inevitable; if it is very common, it is an evidence of disease—usually a diseased endometrium; it is occasionally an evidence of malignant disease. Between hemorrhage at the menopause and cancer there is no such relation as cause and effect. It happens that cancer of the uterus develops in a large number of cases about the period of life when the menopause usually occurs, but the percentage of women who go through the experiences of the menopause and those of cancer of the uterus as well is very small when compared with those who do not have cancer of the uterus.

The treatment for the hemorrhage is mainly mechanical, thorough curettage of the diseased mucous membrane, and it is not unusual that this treatment should be repeated, perhaps several times before the end of the menopause is reached. Not infrequently the condition of the nervous system during this period is one of decided tension and this should be carefully regarded and treated, not only with sedative drugs, but with agreeable and interesting occupation, with suitable change of climate, if necessary and possible, with well-regulated diet always, and as pleasant surroundings as the conditions of the case will allow. On the whole, therefore, it is decidedly to be hoped that the old teachings concerning the menopause and its treatment may be abandoned and that the rational foundation upon which its true pathology rests may serve the purposes of the future.

ECHOES AND NEWS.

NEW YORK.

Bequest to St. Luke's Hospital.—By the will of Daniel T. Hoag, St. Luke's Hospital is to receive a legacy of $3,000.

Yellow Fever in Cuba via New York.—Eight new cases of yellow fever have developed among the crew of the British steamer "Ethelbrytha," Captain Turgoose, which arrived in New York Friday last from Jacksonville, and indirectly from New York, with three cases of the fever on board. The eleven sufferers are being treated at the yellow fever hospital and are all doing well.

New York County Medical Society Officers.—The following officers were nominated for the ensuing year: President, Dr. Frank Van Fleet; First Vice-President, Dr. Charles N. Dowd; Second Vice-President, Robert Lewis, Jr.; Treasurer, Dr. E. W. Peet; Secretary, Dr. John Van Doren Young; Assistant Secretary, Dr. E. P. Fowler; Censors, Dr. George B. Fowler, Dr. H. S. Stern, Dr. Wendell C. Phillips, Dr. Robert F. Morris, and Dr. James F. McKernon. One hundred and seventy-five delegates were elected to the State Medical Society and a committee was appointed to arrange for a reception to the State Society when it meets at the Academy of Medicine here for its semi-annual session, October 15th and 16th.

Hospital Beneficiaries.—The late Harriet Wilcox made provision in her will for the following hospital charities: New York Skin and Cancer Hospital, $20,000; Home for Consumptives, $10,000.

New York County Medical Society and the Milk Supply.—The first meeting of the fall was held Monday, September 23d. The President, George B. Fowler, M.D., in the chair.

The chief interest of the meeting was the report of the Milk Commission appointed in January, 1900, consisting of Drs. Henry Dwight Chapin, Abraham Jacobi, W. L. Carr, and Joseph E. Winters. The report was read by Dr. Chapin, the Chairman of the committee. He first spoke of what the committee had done, having made over 800 bacteriological tests, thirty visits to farms, many of them more than 200 miles from the city, and having had two conferences with milk dealers.

"From a chemical point of view," he said, "we found the milk good. Out of twenty samples which we examined all showed at least 4 per cent., and some 5 per cent., of fat, while the law requires but 3 per cent. So we devoted our attention to the bacteriological conditions of milk and the question as to its proper handling and preservation.

"It has seemed wise to establish a standard of cleanliness for a bacteria standard to which dealers must conform. The standard prescribed by the commission is that the acidity must not be higher than 3 per cent. and that the milk must not contain more than 30,000 germs or bacteria of any kind per cubic centimeter, and that butter fat must reach 3.5 per cent.

"The amount of bacteria in the milk used in the city is something alarming. Out of twenty samples examined on a winter day, November 19th, the lowest was 90,000 germs and the highest 2,280,000, while on June 29th, with the thermometer at 90 degrees, out of twenty samples examined the lowest contained 240,000 and the highest 516,000,000 per cubic centimeter. The prevalence of bacteria, to a great extent, arises from the dirt in the milk.

"There are seven conditions on which the amount of bacteria depends—the cleanliness of the barn, condition of the cow, condition of the milker, condition of the utensils, the cooling process, the transportation, and the cleaning of the milk bottles before they are returned."

Aeration, he said, is not a success to-day as used by the ordinary farmer. In good hands it might work all right, but in many cases as at present used it resulted in an increase of germs. The three things which are absolutely necessary to secure milk comparatively free from germs are strict cleanliness, rapid and sufficient cooling, and thorough icing of milk until it reaches the consumers. In the transportation of milk, ordinary freight cars should not be used, and the ends of the cars should be kept closed, thus preventing the heated air from passing through the car and breeding the germs. The railroads could be asked to cooperate and furnish refrigerating cars in which the milk could be kept constantly on ice, and after being unloaded it should be re-iced before reaching the dealers.

The Milk Commissioners, he said, agree to guarantee or certify the milk of all dealers desiring such certificates, a special label having been printed for this purpose.

PHILADELPHIA.

Pennsylvania State Medical Society.—The fifty-first annual meeting of this Society was held in Horticultural Hall September 24th, 25th, and 26th, under the presidency of Dr. T. D. Davis of Pittsburg. The scientific program was an unusually large and varied one, and the papers were of a high standard of merit. (See MEDICAL NEWS of this week.) An innovation was the special lantern demonstration given Thursday evening. The social side of the meeting was well arranged and satisfactorily carried out. It included receptions by Dr. John V. Shoemaker, Dr. James Tyson, the Philadelphia County Medical Society, the Trustees and Faculties of the Jefferson, Woman's, and Medico-Chirurgical Colleges, and the Medical Club. Wednesday afternoon the University of Pennsylvania gave a lawn party in honor of the Society and its guests. During the week a number of special clinics were held at the various medical schools and hospitals. A full report of the scientific business appears on another page.

New Site for Children's Seashore House.—New property has been obtained for the above institution at Atlantic City. The plot extends between Annapolis and Richmond avenues, Chelsea, and is a great improvement over the old location. Three buildings will be erected. The main building will be 300 by 84 feet in size and four stories high. The two other buildings will each be made up of sixteen little cottages under the same roof and will be 156 by 44 feet. The center of the property will be left vacant for a playground. The buildings will be ready for occupancy next summer.

County Medical Society.—The North Branch organized September 19th by electing Dr. A. M. Eaton chairman and Dr. R. L. Pitfield clerk. South and West branches will probably be organized in the near future.

Western Pennsylvania Medical College.—This college in Pittsburg has opened for the session with a great many changes in the faculty. The following are the more important changes in professorships: Dr. W. H. Ingram, histology, pathology, and bacteriology; Dr. M. R. Ward, diseases of nose and throat; Drs. R. W. Stewart and J. J. Buchanan, principles of surgery and clinical surgery; Dr. S. L. McCurdy, orthopedic surgery; Dr. G. N. Munro, Jr., legal medicine.

Smallpox and the Municipal Hospital.—The opposition of the citizens living near the Municipal Hospital has taken definite form in the signing of petitions and the holding of two large mass meetings Saturday evening, September 21st. During that week 38 new cases of smallpox and 4 deaths had been reported, 26 of the new cases occurring in the Twenty-eighth Ward, where the hospital is located. The hospital authorities are about to erect an annex for the purpose of isolating smallpox patients. The citizens in mass meeting have demanded three things of the city officials: (1) The removal of the smallpox sections of the Municipal Hospital to a more isolated part of the city; (2) the immediate abandonment of the projected annex; (3) energetic instead of lax methods on the

part of the officials in fighting the disease. Medical inspectors of schools have been notified by health officers to report any cases of unvaccinated children, and vigorous efforts are being made to have vaccination made general.

The Progress of Surgery as Influenced by Vivisection.—Under the above title Dr. W. W. Keen contributes an article which is published in recent issues of the Philadelphia *Record*. The writer puts before the general public the advantages which have accrued to the surgeon and his patients from animal experimentation. From his introduction we take the following statement: "Two water companies in London in 1853 experimented on 500,000 human beings, and, as a result of the cholera, one of them killed 3,476 human beings. In that same year Thiersch, in Leipzig, experimented on 56 mice. Had the lesson of these few mice been heeded the lives of these human beings might have been saved." After speaking of the importance of antisepsis and its growth from experimentation, Dr. Keen speaks in detail of the operations upon various organs of the body which have been shown feasible by first performing them upon animals. He confines himself almost wholly to those which have occurred during his professional life in order to speak of what he personally knows. He concludes as follows: "Although I myself am not a vivisectionist, yet I could not do the work I do every day and accomplish results I do were it not for just such work, of which I take advantage. I cannot believe that any unprejudiced, fair-minded reader will not agree with me that such humane purposes should be fostered and not hindered, should be encouraged and not abolished."

Dr. Miller Honored.—Dr. John S. Miller, of Denver, Colo., formerly a demonstrator of anatomy in Jefferson Medical College and surgeon to St. Joseph's Hospital, during a visit to this city was tendered a dinner by his professional friends September 10th. Dr. F. X. Dercum acted as toastmaster.

Examination Fees not Returnable.—William McKenzie has brought suit against the Hahnemann Medical College for the return of $30 which was paid as a "graduation" fee, the plaintiff having failed to graduate. The defendant avers that this fee does not insure graduation, but only covers expenses incident to examination and commencement exercises, and under no circumstances is returnable.

Extermination of Mosquitoes.—It is stated that the State Entomologist of New Jersey will ask the Legislature at its next session for an appropriation of $10,000 for the purpose of conducting a study of the mosquito with a view to its extermination.

Western Pennsylvania Medical College.—Dr. Stewart L. McCurdy, Professor of Anatomy and Surgery in the Dental Department of the Western University, has been elected to the chair of orthopedic surgery in the Western Pennsylvania Medical College at Pittsburg. Dr. McCurdy was at one time professor of orthopedic surgery in the Ohio Medical University.

Evening Medical School.—The Medical Department of Temple College, the combined day and night school under the presidency of Rev. Russell H. Conwell, has been entirely reorganized and opened for the session of 1901-02 September 16th. The course covers five years, the entire work being given in the evening. Sessions are from 6:45 to 9:45 P. M. daily. The yearly fees are $125.

CHICAGO.

New Hospital.—The new hospital of the Sisters of Mary, built at a cost of $250,000, is nearing completion. The structure is six stories high, fireproof, of cut stone and pressed brick, with strikingly high porticoed entrances. The ground dimensions are 196 by 87 feet. The operating-rooms are on the top floor. On the north and south sides of the building are enclosed porches, which can be so heated as to be habitable the year round.

Outbreak of Anthrax.—The recent outbreak of anthrax at Palatine and its increasing prevalence in the surrounding country, which is largely devoted to dairying interests, prompted Health Commissioner Reynolds to send the Secretary of the Department, together with one of its meat inspectors, to that section to investigate the existing conditions. As a result, and at the suggestion of the representatives of the Department, the farmers throughout the infected district have formed a local association for the purpose of stamping out the disease and preventing its further spread. This association has pledged the Department that no milk or veal calves or beef cattle will be shipped from any of the infected herds. In view of these pledges, and the thoroughly reliable character of the men who made them, it was not deemed necessary on the part of the city to establish any quarantine against the food supplies from this district. It is believed that with the enforcement of the measures now under way the present outbreak will soon be under control.

GENERAL.

Morristown and Malaria.—Much comment is being aroused concerning the great prevalence of malaria in this city. The old system of water-works, with its contingent of over 200 cesspools, is supposed to bear some relation to the disease, but the wet season and the great increase in mosquitoes are not mentioned, although they are much more important factors.

State Asylum in Nebraska Burned.—The State Insane Asylum and adjacent buildings, eight in all, were destroyed by fire September 23d. Six hundred patients were in the institu-

tions at the time, three of whom are missing and supposed to have been burned to death.

The Doctors' Bills.—The sensational press is agitating the subject of the bills of the doctors who attended the late President McKinley. It is to be hoped that the niggardly policy pursued by Congress in the case of President Garfield will not be followed in the present instance.

Leprosy in Honolulu.—Leprosy is being slowly but none the less certainly eradicated in the Hawaiian Islands. Five years ago there were over thirteen hundred inmates at the leper settlement on the island of Molokai; when the annual visit was made a few days ago there were barely nine hundred. This is due to the method of treatment by isolation and quarantine.

Pasteur Institute in India.—The Pasteur Institute at Kasauli completed its first year's work on August 8th. The total number of patients received during the twelve months was 321, namely, 146 Europeans, 175 natives, of whom ninety-six belonged to the British army and twenty-five to the Native army. There was not a single failure in the treatment among the Europeans, and only two among the natives. In the latter cases the patients had been severely bitten, and arrived so late that successful treatment was impossible. There were thirty patients under treatment August 9th. The saving to the Government is very large, as no British soldiers have been sent to Paris since the Kasauli Institute was opened.

Promotion for Dr. Rixey.—President Roosevelt has notified Mrs. McKinley, through Secretary Cortelyou, that, in pursuance of the intention of the late President McKinley, and in recognition of devoted services, as well as because of eminent fitness, Medical Inspector P. M. Rixey will be appointed Surgeon-General of the Navy upon the expiration of the term of Surgeon-General Van Reypen. The Secretary of the Navy has been requested by the President to instruct Dr. Rixey to make such arrangements as will enable him to continue, if needed, his care for Mrs. McKinley between now and the time of his appointment to his new office. The naval list shows that Surgeon-General Van Reypen will not retire in the ordinary course until November 14, 1902. Dr. Rixey stands No. 28 on the list of naval surgeons. Though Surgeon-General Van Reypen's retirement from active service does not occur for more than a year, his commission as surgeon-general, which was for a period of four years, will expire on December 18, and Dr. Rixey's appointment may be expected then.

More Smallpox in Newark.—It is feared smallpox is getting a new hold in this city. There is every indication that this month will prove a record breaker. Eight patients suffering of the disease have been taken to the hospital September 18th. Among them was Health Inspector John Bull, who has since died from the disease. There have been 25 cases of smallpox so far this month. Since last February, when the first case developed this year, there have been 128 cases and 19 deaths.

Physician to the Indian Service.—The United States Civil Service Commission invites attention to the examination which will be held at various places throughout the United States on October 22d for the position of physician in the Indian Service. The examination will consist of the subjects mentioned below, which will be weighted as follows:

1. Letter-writing	5
2. Anatomy and physiology	15
3. Chemistry, materia medica, and therapeutics	10
4. General pathology and theory and practice of medicine	25
5. Surgery	20
6. Bacteriology and hygiene	10
7. Obstetrics and gynecology	15
Total	100

Information relative to the subjects and scope of the examination may be found in section 125 of the Manual of Examinations revised to January 1, 1901. The age limit is twenty-five to fifty-five years. From the eligibles resulting from this examination it is expected that certification will be made to the position of physician in the Indian Service at White Earth Agency, Minnesota, at a salary of $900 *per annum*, and to other similar vacancies as they may occur. This examination is open to all citizens of the United States who comply with the requirements and desire to enter the Service. All such persons are invited to apply, and applicants will be examined, graded and certified with entire impartiality and wholly without regard to any consideration save their ability as shown by the grade attained in the examination. Preference may be given to residents of the Indian Service district in which the vacancy exists. Persons who desire to compete should at once apply to the United States Civil Service Commission, Washington, D. C., for application forms 304 and 375, which should be properly executed and filed with the Commission prior to the hour of closing business on October 12, 1901.

Assistant Surgeon at the Freedmen's Hospital.—The United States Civil Service Commission announces that on October 29-30, 1901, an examination will be held in any city in the United States where postal free delivery has been established, for the position of assistant surgeon at the Freedmen's Hospital. The examination will consist of the subjects mentioned below, which will be weighted as follows:

1. Letter-writing	5
2. Anatomy and physiology	10

3. Surgery and surgical pathology..... 20
4. Chemistry, materia medica, and therapeutics 10
5. Bacteriology and hygiene..... 15
6. Theory and practice of medicine and general pathology 25
7. Obstetrics and gynecology..... 15

Total.....100

The examination will be divided as follows: First day, first four subjects; second day, remaining subjects. The age limit is twenty years or over. From the eligibles resulting from this examination it is expected that certification will be made to positions of assistant surgeon at the Freedmen's Hospital, Washington, D. C., at a salary of $1,000 to $1,500 per annum, and to other similar vacancies as they may occur. This examination is open to all citizens of the United States who comply with the requirements, without regard to race or to political or religious affiliations. All such citizens are invited to apply; but attention is invited to the fact that the Freedmen's Hospital is an institution for the treatment of colored patients, and it is understood to be the practice of the Department to appoint only colored persons to positions therein. Applicants shall be examined, graded, and certified with entire impartiality and wholly without regard to any consideration save their ability as shown by the grade they attain in the examination. Persons who desire to compete should at once apply to the United States Civil Service Commission, Washington, D.C., for application forms 304 and 375, which should be properly executed and promptly forwarded to the Commission.

Tri-State Medical Society of Alabama, Georgia and Tennessee.—The following supplementary list of papers is announced: Spinal Cocainization, by R. E. Fort, Nashville, Tenn.; Treatment of Acute Lobar Pneumonia, by W. S. Britt, Eufala, Ala.; Local Anesthesia as Applied to Mucous Membranes, by G. H. Price, Nashville, Tenn.; Tuberculosis: Its Relation to Marriage and Heredity, by J. A. Witherspoon, Nashville, Tenn.; The Necessity of Careful Diagnosis, Prognosis and Treatment in Some Diseases of the Heart, by L. W. Johnston, Tuskegee, Ala.; An Operation of Tubal Pregnancy Complicated with Appendicitis and Fibroid Tumors of the Uterus, by P. U. Brown, Troy, Ala.; Traumatic Injuries of the Brain, Report of Cases, by Hugh Boyd, Scottsboro, Ala.; Hernia, by G. Manning Ellis, Chattanooga, Tenn.; Surgical Shock, by D. S. Middleton, Rising Fawn, Ga.; Rodent Ulcer, by A. R. Robinson, New York; Acute Mastoiditis, by J. A. Goggans, Alexander City, Ala.

Mississippi Valley Medical Association.—The twenty-seventh annual meeting of the Mississippi Valley Medical Association adjourned at Put-in-Bay, after a most successful session, on the morning of the 14th, out of respect to our martyred President.

The following officers were elected for the ensuing year: President, S. P. Collings, M.D., Hot Springs, Ark.; First Vice-President, J. C. Culbertson, M.D., Cincinnati, O.; Second Vice-President, Paul Paquin, M.D., Asheville, N. C.; Secretary, Henry Enos Tuley, M.D., Louisville, Ky.; Treasurer, Thos. Hunt Stucky, M.D., Louisville, Ky.; Chairman Committee of Arrangements, A. H. Cordier, M.D., Kansas City, Mo.

The twenty-eighth annual meeting will be held in Kansas City, Mo., in October, 1902.

CORRESPONDENCE.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

ARTIFICIAL ENDOCARDITIS—MIDDLE-EAR DISEASE—THROMBOSIS OF THE SIGMOID SINUS AND INTERNAL JUGULAR VEIN—FEATURES OF THE BUBONIC PLAGUE IN BOMBAY—GENERAL DISEASES AND THEIR INFLUENCE UPON THE FUNDUS OF THE EYE—MENTALLY-UNSOUND CHILDREN AND THEIR TREATMENT.

MENZER, at the Gesellschaft der Charité-Aerzte in Berlin, June 20, 1901, exhibited the heart of a rabbit in which malignant endocarditis had been produced by the intravenous injection of streptococci recovered from a case of malignant endocarditis in man. The cocci did not differ in any discoverable bacteriological details from such as are found in the synovia of joints after acute rheumatism and often in many cases of angina. The relation among these diseases, at least so far as this cause is concerned, is at least obvious.

TRAUTMANN read a paper on middle-ear disease and pointed out that the conditions of an external approach through the external auditory canal and an internal approach through the Eustachian tube are favorable to the onset of these troubles. Furthermore, they are unfavorable to the efficacy of ordinary preventive measures, and nullify these against such causes as currents of cold air and congestion induced by cold baths while the body is overheated. The cylindrical epithelium of the tube which extends from the posterior nares can very easily be affected and damaged by all of the acute and chronic inflammations. General health and particularly the peculiar vulnerability of children are very important factors. The active influence of bad nasal therapy, especially douches, must not be forgotten as a fruitful producer of middle-ear disease. The course of the disease is determined by the nature and virulence of the bacteria. Among 76 cases streptococci occurred in 46, pneumococci in 20, staphylococci in 20, and tubercle bacilli in 3. The dry form is not uncommon and usually after many relapses leads to various degrees of deafness. Then there are several types of exudative inflammations: the seromucous occurs usually as

the children's form, the fibrinous, as that present in nephritis and ulcerative endocarditis. The purulent types always are severe and have intense symptoms. For the treatment of otitis media purulenta are to be recommended dry gauze tamponade and free drainage by opening the mastoid cells. If this opening does not quickly close necrosis of the bony walls or of the small bones of the middle ear is probably the cause.

Stenger stated the results of his investigation of a large number of temporal bones with reference to the relation of the bulb of the internal jugular vein and the sigmoid sinus and their combined bearing upon thrombosis in each. The exact relation of these two venous channels to the tympanic cavity is a varying one. In certain cases the wall of the cavity is in part not bony, but venous, the channels lying to this extent exposed. In such individuals the danger of infection and later of thrombosis must be very great. The indications deducible from these anatomical facts are that, when the symptoms of thrombosis are present and after exposing the sigmoid sinus it is found to be free of clot, the bulb of the jugular vein should be brought to view because that may be the site of the thrombus.

M. Hahn, at the Berliner medicinische Gesellschaft, June, 25, 1901, read notes on his observations of the bubonic plague in Bombay and other localities in India during a stay there of two and a half months. The first question to be raised is whether the original defences against the plague had been stout and energetic enough, in view of the rapid and widespread advance of the disease throughout British India. The opinion of the writer was that they had not been. This has been practically admitted by the English authorities, who are, however, proceeding in Egypt with the same definite activity against it as the Germans did in Germany against the cholera in 1892. The foreign visiting physician has free access to the hospitals. The local medical authorities do not appear to suffer from any great fear of the bacilli. The attendants at the hospitals are on the whole rather indifferent. Washing facilities are the most imperfect. Common sense is very much lacking in this matter and also in the fact that rather too free access to the sick is permitted the relatives who hover about the bed, supply much of the nursing and sanitary service and often cook the food. All this certainly opens the door wide for the spread of the infection. Ordinarily the treatment is carried on by the Hindoo physicians whom the natives themselves are apt to prefer. The transportation and registration of the sufferers are very well ordered. The latter can not very well be absolutely perfect, because here and there cases are hidden. The strict isolation of the patients and the evacuation of all infected houses can not well be carried out, say the English, on account of the peculiar superstitions of the natives. True disinfection, as it is understood in Europe, can not be accomplished on account of the religion, caste customs and other social peculiarities and political organization of the country. In Egypt, at least in the harbor cities where European customs and civilization are at least familiar to and respected by the populace, it has proved quite easy. In Europe where these things are a matter of every-day knowledge, the most rigid precautions will, of course, be readily taken. The mere knowledge of one fact about the cause of a plague is not a victory over it. For example, although the cause of the malarial poisoning has been known for some time, this knowledge did not promise the means of eradicating the disease until the discovery of the means of infection in the mosquito. We are now somewhat in hope of eradicating the germ. Syphilis on the other hand is not yet assigned definitely to a bacterial cause, but the source and manner of the infection are fully familiar to all. Were it not for various difficult social problems this disease, too, could be stopped. The exact source of inoculation is not yet determined in the bubonic plague. Rats certainly play a considerable rôle at the outset, but later it is for each person some definite avenue of attack. Children appear in India to be stricken rather through the mouth. Adults usually have wounded feet from the habit of going barefoot. It is probable that a considerable decrease in the plague would occur if the Hindoos could be induced to wear shoes. The author has not found one rat dead of the bacilli. Immunity conferred by inoculation, Haffkine's method, promises well, but has not yet fully established its results. A reliable measure of protection is not yet found. A serum curative of the disease is now on the market there for which great results are claimed. If true, this serum will reduce the mortality from 90 to about 12 per cent; but, unfortunately, the universal supply of this serum is not yet possible, because the doses are so large, 100 c.c. at a time up to the total of 1500 c.c. Such large quantities are still difficult to produce. The prospects of good serum are still not bright, because this one is purely germicidal and not at all antitoxic. Under his observation the bubonic plague takes the character of a sepsis only just before death. Through the rest of its course it is purely a toxemia. An improvement in the general outlook in India can not be expected until all the hygienic factors are improved. Without a general elevation of the national intelligence this is well-nigh out of the question.

Litten, at the Verein für innere Medicin in Berlin, July 1, 1901, elucidated the relationships between some of the lesions of the fundus oculi and general disease. In 1876 he began his studies in this field, especially of the septic processes and their effects upon the eye. By this it is not to be understood purely secondary panophthalmitis, but those white streaks and spots which, alternating with small hemorrhages, appear about the papilla of the optic nerve. The conclusions he then published were that these signs appear in 80 per cent. of his total of 35 cases then recorded, that such patients almost invariably died, that the disease always ran an acute course and that the eye signs usually appeared just before death. His later ob-

servations tend to confirm the former. The eye complications occur, however, in only 30 to 40 per cent. of all cases, are not always precursors of death, do not persist after the patient has recovered from his disease, and are most common in the protracted cases. On the basis of continued observation during the last ten years the author acknowledges that these limitations are on the whole correct. If the prognostic value of their presence is also to be limited, he holds fast to the conviction that their diagnostic significance is highly important. We have to distinguish the retinal condition found in septic troubles, nephritis, pernicious anemia, leukemia, diabetes and scorbutus and to remember always the possibility of tuberculous choroiditis. Following upon his clinical observations, he made a number of pathological tests endeavoring to clear up the essence of these lesions. This seems to be an exudate into the nerve sheath. Why, however, it should always appear in the same layer and at the same point can not be fully explained.

SINELL, at the Aertzlicher Verein in Hamburg, June 25, 1901, read a paper on the mental deficiency of children and its treatment. He at first sought to define the various grades of mental incapacity and said that absolute insanity and mere feebleness of intellect must be distinguished. In the first group of patients come those who are merely weak-minded, but are still capable of instruction. The prognosis so far as the social relations are concerned and the therapeutic considerations, is much the same in all classes of cases, and the somatic importance of a differential diagnosis must not be neglected. Under idiocy, it is to be understood that there lies some severe cerebral disease in childhood or in early adolescence, which has resulted in the partial or total loss of the power of receiving and interpreting external impressions, although not in the loss of many of the ordinary mental processes of life. The final outcome of the lesions is more or less disturbance of the motor, sensory and intellectual processes. Only the most rigid and careful examination will reveal the differential diagnosis between true idiocy and mere mental insufficiency. Between these two conditions there are very many transitional stages. The importance of training-schools for these poor children can not be overestimated. The most essential point of all is that this condition be early recognized. As a rule, such children suckle poorly, cry almost continually, are nervously restless and excited, often blind and deaf or appear so. Under imbeciles, on the other hand, one must not include a mild degree of idiocy. Here is often found some moral defect or antisocial element. For the detection of such imbeciles one must investigate the existing degree of the power of attention, spontaneous or voluntary, color sense, hearing, taste, smell, etc. Deficient muscular sense is the cause of the awkwardness and muscular weaknesses of these patients. Many times the bodily origin of these nervous troubles is adenoid growths, whose removal may be promptly curative. The therapeusis is for the merely feeble-minded and approved home-training, with much patience and the aim of developing the afflicted. Occasionally an asylum is necessary where the same processes are to be followed. Special effort toward the development of the perception, attention, speech and muscular systems must be made. Rest, freedom from nervous irritation and avoidance of bodily punishment and maintenance of good environment are all to be observed. One must always remember that these conditions as such are really totally incurable. The idiot may, however, by instruction, be developed so that he can take care of himself and respect the rest of the community, but the imbecile can never be trusted and must therefore always be confined.

OUR LONDON LETTER.

(From Our Special Correspondent)

LONDON, Sept. 14, 1901.

THE NEW SCHEME OF ARMY MEDICAL REFORM—A VICTORY FOR THE DOCTORS.

THE Government scheme for the reform of the Medical Service of the Army has not yet been promulgated, but it has been passed by the Treasury, which is generally the greatest obstacle to delivery in official parturition. Only a general idea has so far found its way to any one outside the charmed circle of the War Office. I am, however, by special grace—whether of God or the (printer's) devil, I will not say—in a position to give you an outline embracing all the essential features of the scheme. So slow are the movements of our Government that it is probable enough that your readers will know the details of the scheme some time before they come to the knowledge of those most concerned here.

I should say first of all that the scheme is in the nature of an agreeable surprise. As has been said in previous letters, Mr. Brodrick, the Secretary of State for War, has on several occasions been distinctly unsympathetic in his references to the medical officers of the Army, and has even seemed sometimes to go rather out of his way to treat them with hardship. It was therefore expected that his scheme would be of a character that would make it unacceptable to the medical profession. I am bound to say, however, that it bears every sign of having been inspired by a real desire to satisfy the legitimate demands of the profession, while securing the efficiency of the service. The fundamental feature of the scheme, in which it differs from all the Royal Warrants on this subject previously issued, is that the service will in future be controlled by an Advisory Board. This means that instead of a Warrant, which may be made a dead letter in practice by the perverse ingenuity of the War Office or even by the personal whim of a commanding officer, the medical service will be controlled by a living organism whose special function it shall be to administer the scheme in the sense intended by its framers, and to modify its details as experience may suggest or special circumstances may re-

quire. The controlling power in the administrative machinery of the Army Medical Service will therefore be sufficiently elastic to adapt itself readily to the ever changing conditions with which it has to deal. Of course, everything will depend on the constitution of the Board. If it were to be merely a select body of more or less ornamental dummies, like Napoleon's senators, who should simply prophesy smooth things to the Secretary of State for War, it would be no improvement on the existing system. But pains have been taken to to make the composition of the Board representative not only of the service itself but of the civil profession. The Board is to consist of the director general and the assistant director general of the service; of an officer of the Royal Army Medical Corps with special knowledge of sanitation; an officer of the same Corps possessing special knowledge of tropical diseases; two civilian physicians and two civilian surgeons chosen by the Secretary of State; and one representative of the War Office. Of this Board the director general is to be chairman and is to have a casting vote in all questions where opinions are equally divided. If he is a strong man, this will leave him practically master of the field. The civilian members of the Board are to be chosen from among the staff of one of the great teaching hospitals; they must not be less than forty-five years of age or over sixty. In this way it is hoped to exclude the fossil element which is so apt to paralyze the efficiency of boards of all kinds. The Board is to meet fortnightly, and three members at least are required to form a quorum, one of whom must be a civilian. The constant presence and living influence of the civilian element is expected to keep the military element, which generally shows a tendency to early ossification of the intelligence, up to the mark.

Through this Advisory Board the Medical Service of the Army will be governed by the Secretary of State. It will keep a watchful eye on all military hospitals, and on individual officers; it will control examinations and personally inspect all candidates, to see what manner of men they are, before they are admitted to the service. It will receive reports on the working of the service in every detail, and make representations to the Secretary of State on these reports and on all such other matters as it considers important for the efficiency of the service. Though the Board will be only "advisory," it will scarcely be possible for even the most autocratic Secretary of State to treat its "representatives" lightly; if he does, he can be called upon to justify his action in the House of Commons. On the other hand, it will be out of the power of the most militantly military Commander in Chief to pursue the policy of the Duke of Cambridge and Lord Wolseley, to whom it seemed to afford a special satisfaction to snub "the d—d doctors." The dislike of the former for the doctors is believed to have had its origin in the fact that during his inglorious career in the Crimea his life was saved by an army surgeon who took command at a critical moment and brought His Royal Highness, rather the worse for wear, out of the fight. Wolseley's hatred of the medical officers is particularly remarkable in the view of the facts that he had a brother in the department, and that the wars in which he won his laurels were really victories of sanitary science. Henceforth the Commander in Chief, if he allows himself to show the insolence of office upon occasion, can speedily be brought to book.

Admission to the medical service will still be by examination, but instead of being worried with questions on anatomy, zoology, etc., the candidate's knowledge will be tested clinically and practically. Promotion in the junior ranks will be by examination, for which six months' special preparation in a hospital fully equipped with laboratories, etc., will be compulsory. In this way every officer before attaining the rank of major will have gone through at least a year's extra study in a place where all the means of furnishing knowledge and practical skill to the highest point are available. Beyond the rank of lieutenant colonel promotion will be entirely by selection. This is a further indication of the determination, as far as is possible, to weed out incompetence and fogeyism. Encouragement is to be given to men to make themselves specially proficient in operative surgery, laryngology, dermatology, etc. The pay of all ranks is to be materially increased from the youngest lieutenant who, including allowances of one kind or another, will get $1,850, up to the director general, who will get $10,000 a year.

The scheme of reform includes the establishment of a great military hospital with not less than 500 beds in London; and a Medical Staff College, also in the metropolis. Here as a rule officers studying for promotion will go through their special training.

On the whole it may be said that by the new scheme everything asked for by the medical profession has virtually been conceded. The rank and titles remain as they are; the pay is increased to an extent sufficiently to remove this particular grievance; opportunities are given to the officers of the service to keep their professional knowledge up to date; and they are no longer to be at the mere mercy of the War Office, which has neither a body to be kicked nor a soul to be damned. The Advisory Board can be called to account jointly and severally by the press; and the caprices and prejudices of military officers from the Commander in Chief to the youngest captain can be effectually held in check. To medical journalists this unconditional surrender of the military authorities is particularly gratifying, for the victory is due almost entirely to the medical press.

Bellevue Hospital Exonerated.—Bellevue Hospital authorities were exonerated from blame for the death of John Chrystie in the pavilion for the insane attached to that institution on June 18, as a result of an investigation held Wednesday before Coroner Bausch and a jury.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-first Annual Meeting, held at Philadelphia, September 24, 25, 26, 1901.

FIRST DAY—SEPTEMBER 24TH

The meeting was called to order by the President, Dr. T. D. Davis, of Pittsburg.

The opening session was devoted to the reports of committees, new business, etc. Resolutions expressing sympathy for Mrs. McKinley were adopted.

Address in Otology.—This address was delivered by Dr. E. N. Buckman of Wilkesbarre. The speaker mentioned the progress in this branch during the last six years, stating that mastoiditis was considered a very serious disease when he began practice, now radical operations are so successful that abortive treatment is not long kept up in any case. This is one of the most satisfactory conditions the aurist has to treat. The least satisfactory and one which shows the least progress during the last five years is tinnitus. The cause is not definitely known, but there is slowly increasing deafness where tinnitus is the chief symptom. Often there are constrictions in the Eustachian tube. Success in treatment is not marked in many cases Bougies may be used, but they are apt to break and do not remove the constriction. Massage benefits some cases. To be useful it must be vigorous. During the past four months Dr. Buckman has used electricity, mainly in obstinate cases not benefited by other treatment. The time is too short to admit of definite conclusions, but he thinks the claims made for electricity are not exaggerated. It will give good results in many cases. Success in treating these cases depends more on how remedies are used than on the means employed.

Some Aural Complications of Influenza.—Dr. S. MacCuen Smith of Philadelphia spoke on this subject. Inflammation of the middle ear due to influenza is noted for the intensity, rapidity, and virulency of its action. The hemorrhagic form is more frequent than those from other causes. Mastoid implication and irritation are present in all severe cases. Two cases of primary mastoid abscess have been seen. In influenzal otitis suffering continues after spontaneous rupture of the membrani tympani. A bacteriological examination of all ear discharges is of great value, although other bacilli may take the place of the exciting cause after some time. The character of the infection cannot be judged from the odor of the discharge as is sometimes attempted. Dr. Smith has seen and studied particularly 23 cases and he enumerated some of the general characteristics. Nine were of the hemorrhagic variety. Fourteen terminated in spontaneous rupture of the membrane after forty-two hours, the pain continuing afterward for from twenty-four to sixty-four hours. In six cases the membrane was incised early in the attack with prompt relief of pain. Prophylaxis is of utmost importance in cases of influenza and if aural complications do arise they should be treated boldly. Rest in bed with a milk and broth diet (or, better still, fasting for two or three days), diuresis and diaphoresis are the best measures that can be instituted. Influenzal earache yields stubbornly to hot applications, but hot antiseptic solutions may be tried. Prompt incision of the membrane should be made when any distension is noticed.

Incudectomy for Progressive Hardness of Hearing, Tinnitus Aurium, and Ear Vertigo.—Dr. Chas. H. Burnett of Philadelphia said that progressive hardness of hearing is caused by atropho-neurosis of the muscular structures in the Eustachian tube, nasopharynx, and middle ear. There is finally caused an impaction of the stapes in the oval window. In ear vertigo there is contraction of the tensor tympani muscle. The surgical treatment recommended aims to overcome this retraction of the tensor tympani and ossicles. Surgical intervention often wards off the occurrence of the same process in the opposite ear.

Reasons for Early Operation in Acute Mastoiditis.—Dr. Wm. H. Dudley of Easton said that the experience of physicians should make a paper on this subject unnecessary, but such is not the case. Several cases were detailed to show the evil consequences of deferred interference.

In the discussion of these papers Dr. Burnett said, in answer to the question as to what symptoms in mastoiditis called for operation, that there were three, namely, pain, pyrexia, and prolapse. The latter refers to prolapse of the upper, posterior part of the membrani tympani and the adjoining external auditory canal.

Ocular Affections in Childhood Associated with Impaired General Nutrition.—This paper was read by Dr. S. D. Risley of Philadelphia. He said that the true condition in these cases was generally not recognized until a thorough ophthalmological study was made. This is a reason for speaking of them from the ophthalmological point of view. Two cases were cited. In both there was astigmatism and changes in the fundus. Correction of the eye defects combined with internal treatment, removal from school, etc., effected a cure in both. The clinical picture in all such cases is practically the same—impaired vitality, headache, general malaise, precarious temper, etc. With these is combined some form of asthenopia. A question to be solved is to what extent eye strain at school affects general nutrition.

Gumma of the Ciliary Body.—This interesting case was reported by Dr. Edward Stieven of Pittsburg. The patient was a woman who had been treated for tertiary syphilis and who supposed herself cured. After a time she reappeared with involvement of the nose and of one eye. This was in December, 1900. Ex-

amination of the eye then and subsequently showed a gumma of the ciliary body with involvement of the lens and vitreous, sight being finally lost. Enormous doses of potassium iodide, as high as 240 grains three times a day, and large doses of strychnine were given. Improvement began and by July, 1901, there was vision of six-eighths, the gumma having apparently entirely disappeared. The inference is that prognosis in these cases should not be hopeless.

Contagious Diseases of the Eye and Their Treatment.—In this paper Dr. S. Lewis Zeigler of Philadelphia reviewed the varieties of contagious eye diseases and pointed out their treatment by general practitioners.

Address in Mental Disorders.—This was delivered by Dr. Robert H. Chase of Philadelphia, who chose as his subject "Paresis From the Standpoint of the General Practitioner." It is a mistaken idea to think that this affection is to be dealt with by the specialist alone. The general practitioner sees the cases first and at the time when treatment is of avail—early in the disease. In forming the diagnosis it is best to take the patient unawares. At first he is conscious of ill feeling; afterward he feels well. Theft and acts of indecency are often committed years before the diagnosis is made from other symptoms. Amnesia is often shown early. Physical signs are indefinite. An outline of treatment for the early stages is to remove the cause if possible, prohibit coition, and the use of alcohol, reduce the patient's work, and place him under favorable hygienic conditions. Partial rest treatment and hydrotherapy are valuable in some cases. Rest and removal from daily surroundings should be advised in cases which are only suspected. An additional duty of the physician is to prevent marriages that would cause hereditary tendency to the affection.

Two Cases of Muscular Dystrophy in Brother and Sister.—Dr. A. A. Eshner of Philadelphia briefly detailed these cases. Both are typical cases of the disease. Interesting points are that the father received an injury to the brain by a fall when sixteen years of age and that there is a paternal history of obesity, four of the father's sisters each weighing more than 220 pounds. Of Dr. Eshner's 20 cases, 2 showed the condition at birth, 8 within five years, and 10 within ten years. There were 16 males and 4 females.

Prognosis in Neuritis.—This subject was briefly presented by Dr. F. Savary Pearce of Philadelphia. Pressure neuritis is to be differentiated from occupation neurosis. The prognosis is more favorable in the former, but relapse is apt to recur. Septic neuritis is usually favorable, nerves showing a certain immunity to pus. The prognosis in alcoholic and metallic neuritis is uncertain owing to relapses. In diphtheritic neuritis the affection seems to be less severe in those cases which have not been given antitoxin. Gonorrheal neuritis is usually local and chronic.

Cases of Hysteria.—Dr. Edward E. Mayer of Pittsburg cited cases to illustrate the difficulty of diagnosis. Some points emphasized were that hysteria is always a psychic disease; that non-hysteric stigmata of degeneration are generally found in hysterical subjects; that the prognosis is less favorable as these stigmata are more pronounced; that the treatment is to remove the prime factor.

The President's Address was delivered Tuesday evening, Dr. Davis chose for his subject "The Pioneer Physicians of Western Pennsylvania." The departure from the usual custom of treating a purely scientific subject was well received by the Society. Dr. Davis' description of the early history of Pittsburg and vicinity and its physicians was thoroughly enjoyed by all who were fortunate enough to hear him.

SECOND DAY—SEPTEMBER 25TH.

Address in Medicine.—This address was delivered by Dr. John B. Donaldson of Canonsburg. It was not too optimistic as regards the present condition in the State. The speaker said that but little had been done by the State in preventive measures against tuberculosis or in caring for the indigent tuberculous. They need not be sent South or abroad. Pennsylvania's own hills are ample. The existence of slums in the large cities is a blot on the age. They can be done away with whenever it is demonstrated that it will pay. Disease is not fought at home as we fight it abroad—at Havana for instance. Filtration is retarded by schemes of contractors. "White wings" clean the avenues, but alleys are neglected. Of great promise is the raising of the standard of medical education. Dr. Donaldson prophesies that ere long we will see an end of the so-called "schools" of medicine, and all physicians will work alike for one end—the eradication of disease.

Gastroptosis and Its Treatment.—This was the subject of a paper by Dr. J. Dutton Steele of Philadelphia. Gastroptosis may exist absolutely without symptoms. When present they are generally those of gastric motor insufficiency. A study of 50 cases showed the order of frequency to be (1) gastroptosis and dilatation combined; (2) dilatation alone; (3) gastroptosis alone. Females are most affected and the condition most frequent in males is simple dilatation. Pressure from above is the most frequent cause of the condition. Any method of examination for diagnosis except that of inflation is unreliable. Tartaric acid and sodium bicarbonate are occasionally used for inflation, but the stomach tube is essential for thorough examination. Air can be forced in by the bulb of an atomizer. The stomach can be mapped out in every case. The air should be allowed to escape before withdrawing the tube. Examination of the gastric contents is of no value in diagnosis. Treatment consists in proper diet, lavage if there is retention, and mechanical support. For the latter an elastic bandage is best and it should be held in place by

perineal straps. Pads should also be bound on the abdomen. The stomach should be distended with air after the belt is applied to see if it is in proper position.

Movable Kidneys; Their Effect Upon the Gastric and Intestinal Functions.—Dr. Boardman Reed of Philadelphia stated that in many cases all the abdominal viscera were involved together, being movable and prolapsed to some degree. The etiology of movable kidney is lack of development of the muscles of the abdomen and unhygienic methods of dress. Pregnancy has nothing to do with the condition. Digestive disturbance is the most prominent symptom. Movable kidneys often act as a stimulant to gastric secretions and sour eructations are caused. Insomnia and constipation are also symptoms and neurasthenia is almost sure to follow. As to prognosis a certain number of cases can be cured without surgical intervention if the patient can afford the treatment. If the kidney is tender or painful, confine the patient to bed from two to six weeks, apply retentive apparatus, and fatten and build up in every way. Stubborn cases often develop hyperchlorhydria and intragastric faradization may be needed. If further trouble persist nephropexy may be done.

Discussion.—Dr. Gibbon of Scranton stated that the use of pads was a mistake as they may cause appendicitis. The reversed corset is the only exterior appliance that should be used. If not effectual, operate and at the same time remove the appendix.—Dr. John G. Clark of Philadelphia changed the subject of his paper and spoke on the treatment of movable kidney. The more conservative methods should be first tried. When there is separation of the recti muscles he is in favor of Webster's operation, *i. e.*, removal of the fascia and uniting of the muscles.

Infective or Malignant Endocarditis.—Several cases of this condition were reported by Dr. A. O. J. Kelly of Philadelphia. Etiology and diagnosis were the points treated. Acute endocarditis is believed to be a single process. Gradations depend upon the virulence of bacteria present and the resistance of the individual. The name endocarditis is a misnomer. Bacteria are found in secondary lesions and in emboli and the blood. The condition is properly pyemia or bacteremia. Toxin of the bacteria is believed to be the only etiological agent in some cases, as the bacteria themselves are not found on the valves. Three factors are of value in making the diagnosis: (1) The leucocyte-count, including differential; (2) bacteriological examination of the blood; (3) symptoms referable to the heart, the so-called arythmic disturbance. In the discussion Dr. J. M. Anders emphasized the importance of applying modern methods in the study of these cases. In contradistinction to some other speakers, Dr. Anders believes that some value must be attached to the occurrence of murmurs. These, with the occurrence of embolic phenomena and the presence of bacteria in the blood, serve to make the diagnosis. In supposed easy cases the trouble should be taken to eliminate other conditions which simulate it, notably typhoid fever.

A Few Notes on the Salts of Sulpho-Carbolic Acid.—This was the title of a paper by Dr. Edgar M. Green of Easton. The value of sodium sulpho-carbolate in arresting fermentative changes in the gastro-intestinal tract was emphasized. Acetanilid and the drug mentioned work well together in alleviating headaches. A smaller dose of the former will give the same effect when combined with the sodium salt.

Primary Abdominal Tuberculosis.—This paper was presented by Dr. Lawrence F. Flick of Philadelphia. Dr. Flick believes that 25 per cent. of all cases of tuberculosis begin in the belly. The diagnosis is exceedingly difficult. It is for the abdominal surgeon to furnish a symptom-complex by which the disease can be recognized. In all cases of chronic indigestion, persistent backache, diarrhea, leukorrhea, etc., when accompanied by loss of weight and strength, tuberculosis should be suspected. Treatment is unsettled as yet. Opening the abdomen cures some cases. A general building-up treatment is indicated. The use of iodoform is worthy of a trial.

Discussion.—Dr. Joseph Price of Philadelphia said that in former years surgeons blundered into the treatment of these cases, the diagnosis not having been made, the operation possibly being done for some other condition. Statistics of results by pioneer surgeons were favorable and for a time he has not refused to open an abdomen for tuberculosis. Surgeons have always made the error of being afraid of adhesions following operation. Iodoform is of great value in these cases and the whole peritoneum and its contents can be made yellow with it and no toxic effects follow. In one case only enough iodoform to cover eight inches of intestine was on hand. A second operation was necessary later and showed the eight inches of gut in a healthy condition, the remainder being covered with tubercles and adherent as before. Abdominal tuberculosis is a condition that justifies intraperitoneal liberties never before taken if the exigencies of the case demand it. The more the abdominal contents are manipulated and exposed and douched the better will be the result. The indications then are for (1) early operation; (2) free use of iodoform; (3) drainage.—Dr. Mordecai Price is sure that he has seen cases of abdominal tuberculosis caused from the use of milk from an infected herd. Early exploratory operation in doubtful cases is indicated.—Dr. James Tyson stated that the tuberculin test is the most infallible aid to diagnosis that we have. It is perfectly safe and in his experience almost infallible.—Dr. S. Solis Cohen said that iodoform was a most valuable agent in the treatment of tuberculosis. It can be prescribed internally if care is taken to increase the dose very gradually. From three to four months should be taken to reach the maximum dose. He believes that Theobald Smith is entitled to much more credit for his

statements in regard to human and bovine tuberculosis than is Robert Koch. It would be a serious mistake for physicians, health boards, etc., to take the view that infected meat and milk are not dangerous when our present knowledge is not more definite.

Address in Hygiene.—This address was delivered by Dr. E. B. Borland of Pittsburg and was a running comment on the present-day status medical and sanitary affairs. The great work done in Havana and Santiago was a triumph of modern hygiene, but the death of so many soldiers during the recent war shows the need of more hygiene in the curriculum of medical schools and its promulgation among the people. The prevalence of smallpox now is due to the work of silly and ignorant antivaccinationists and also to the failure of authorities to provide special hospitals. Special hospitals for smallpox, scarlet fever, and diphtheria cases should be provided in every town of over 1,000 inhabitants. Girls should be taught cooking and the hygienic preparation of food. Vile advertising in papers should be stopped. The prevention of tuberculosis is a vital problem. Stoppage of the spitting habit and notification of tubercular cases are to be commended.

The Histories of Three Accidents in Tapping the Chest.—This was the title of a paper by Dr. J. C. Lange of Pittsburg. The first was instant death of a man, seventy-six years of age, from paralysis of the heart the moment the needle was introduced. The patient had albuminuria, arteriosclerosis, and dropsy. No clots were found in the heart postmortem. Case II. was a man, twenty-three years of age, who had a gush of blood (12 ounces) from the trachea during the tapping and hemoptysis for several days. He finally recovered after two tappings and the drainage of an empyema later. Case III. was a female, fifty-eight years of age, who had pleuritis as a complication of biliary cirrhosis of the liver. She also had hemoptysis during, and for some days after, the tapping.

Reforms in Medical Legislation.—Dr. H. M. Shallenberger of Rochester read a paper on this subject. The paper was an arraignment of the existing policy of the majority of medical schools and suggestions for their revision.

The Vermiform Appendix.—Dr. Edmund Holmes of Philadelphia exhibited specimens of colon and appendix showing various forms of the latter organ. In 96 of 110 cases the right lobe of the cecum was larger, causing the appendix to appear nearer the ileum. Forcible distention revealed a tendency to revolve around the ileocecal valve. The left side then is the place to explore for the appendix when it is not readily found. The appendicular artery is usually single, but there can be two or more. The length or displacement of the organ may account for the anomalous symptoms in some cases. The psoas magnus muscle may lead one astray in diagnosis at times.

(To be Continued.)

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, Held June 10, 1901.

The Vice-President, William McCollom, M.D., in the Chair.

Degenerated Nerve-Fibers of Sensory System.—Dr. M. G. Schlapp presented microscopical sections of different parts of the nervous system, showing degeneration of nerve fibers throughout the whole sensory nervous system (column of Burdock and Gall, roots of trigeminus, vagus, glosso-pharyngeal, and acoustic), produced by the indirect effects of an intracranial growth. The degeneration was confined to the intramedullary fibers, and extended only and exactly to where the sheath of Schwann begins to surround the extramedullary fibers. Dr. Schlapp thinks the sheath of Schwann acts as a protecting sheath to the myelin substance; hence the degeneration of the myelin substance is confined to the intra-medullary fibers, having no sheath of Schwann, and that the degeneration primarily is confined to the myelin substance, the effect, no doubt of the direct action of the intracranial pressure or toxic substances (or both) on the myelin substance, and not secondarily through the trophic centers of the fibers degenerated.

Glioma.—Dr. Schlapp also showed a specimen of a glioma stained for about one minute in Delafield hematoxylin, washed in water, and then stained in a solution of acid rubin (Kulschitsky). The combination of these two stains gives a beautifully clear definition of the glia cell with its nucleus and the fibrillæ. The nucleus is stained blue, the cell-body and fibrillæ red.

Pyosalpinx Involving the Appendix Vermiformis.—Dr. Berg presented the right tube and ovary of a patient which were removed for pyosalpinx. When admitted to the hospital the case appeared to be one of ordinary appendicitis with abscess formation, but when the abdomen was opened it was found that the condition was one of pyosalpinx, and that the appendix was involved only by continuity. The woman made a good recovery.

Growth of New Bone from Periosteum.—The first paper of the evening was read by Dr. J. H. Branth. He said that more than twenty years ago he had removed more than one-half of the inferior maxilla, with a view to having a resulting regeneration of the bone from the periosteum. A number of operations were undertaken to remove sequestrated bone, and it took over a year to close the last sinus. One year later but little scarring was visible, and from the contour of the face it would not have been suspected that so much bone had been removed. On touch one could feel that bone substance had been reproduced. Dr. Branth then presented a patient from whom, in 1884, he had removed nearly all of the os

calcis. He took out a large necrotic mass and curetted the empty periosteal sac. The anterior articular part of the bone was healthy and was left remaining as a shell-like body. The result was most gratifying. In the speaker's experience this principle of subperiosteal bone surgery for reproduction of bone has been applied with varying success. Even where failure resulted nothing was lost, for at a later stage an operation for removal of the entire inflamed part could always be undertaken. In order to determine the application and limitations of such procedures, he took up the consideration of some features of growth, nutrition, repair, degeneration and necrosis, as having to do with periosteum and bone substance. From this study it was apparent that subperiosteal surgery, generally speaking, is limited to cases of necrosis, and does not include in its range cases in which malignant constructive or destructive cell-life exists. After necrosis of a part of a bone has resulted it may occur that the periosteum, having been lifted off the bone, may deposit bone-cells on its under surface and so build a bridge, as it were, over the necrotic substance for some distance, while at some small outlet the débris makes an exit. Such a condition will not permit healing until the sequestrum has been removed, which Nature alone accomplishes by a slow process of disintegration into débris that becomes portable through the avenues of exit. The indications for treatment are plain. The surgeon should aid Nature to get rid of the dead bone substance, but operative interference should be delayed until the line of demarcation between living and dead tissues can be detected, and then the dead bone can be removed piecemeal from the openings, which may be enlarged by incisions. There must be a limited osteitis during the repair of a fracture, which repair is primarily and for the most part accomplished by the periosteum; and later, when the medullary canal is re-established, the endosteum will also contribute to the restoration to the normal condition. In order to secure the best results in amputations the surgeon should take pains to cover the end of the bone stump with a flap of periosteum. In operations for cleft palate we depend on transplantation of muco-periosteum for material to close the gap. While the principle of reproduction of new bone from periosteum is of comparatively limited application, in suitable cases it may be carried out with a fair prospect of success, especially where delay is possible.

Cerebral Concussion, with Retinal Changes.—Dr. L. A. W. Alleman read a paper on the above subject. Retinal changes have not been frequently observed, and the case on which the paper was based presented some very unusual features. Mr. X., a young man in perfect physical condition and a prominent member of the football team of one of the great universities, had been under observation since January, 1897, when he was first examined and given a correcting glass. On October 28, 1900, the day after an intercollegiate game in which he had taken part, he presented himself, complaining that for some time he had been suffering from discomfort in reading, similar to that experienced before using glasses and that he was annoyed by a blur before the left eye, of recent development. His corrected vision, which had been 20/15 on all previous examinations, was found to be reduced to 20/20 in the right eye and 20/100 in the left, and could not be improved by a change of glass. Ophthalmoscopic examination: Scattered about the fundus of both eyes were pigment spots and degenerative plaques of small size, which suggested old hemorrhages. The nerve margins were indistinct and the retinal vessels markedly tortuous. In the right eye, midway between the macula and disc, was an area showing pigment absorption and indefinite retinal changes, and in the left, a slight haze extending over the entire fundus and attributed to retinal edema. On the following day a small fluffy spot, just above the fovea, could be seen in the left eye, even with an undilated pupil. This retinal picture in a patient in such apparent health was alarming, since, on account of previous examinations, an old lesion could be excluded. Incidentally it was discovered that in the football game the patient had received a rap on the head, which had "knocked him out" for a few moments. He said that he had seen double and had been dazed for the remainder of the game. This accident was of so little importance, in the young man's judgment, that he had forgotten it when questioned about an injury. He had frequently received many such raps and thought nothing of them. This discovery suggested a possible explanation of the retinal changes and of the old hemorrhages, but a thorough physical examination was requested. Shortly afterward vision was found to be normal in both eyes. This seemed to show that the impairment in the latter had been due to concussion (so-called commotio retinæ), and not to the minute lesion at the macula, which was still perceptible. The physical examination proved entirely negative. The patient was absolutely sound and showed none of the minor evidences of vascular disease. In discussing the case the author referred to the remarkable ability acquired by athletes to withstand and react from injuries which would be disabling or well-nigh fatal to the ordinary individual. A week later an examination showed vision to be 20/15 in each eye. The right fundus was entirely normal, save the old pigment spots. In the left the picture was clear and bright. The tortuosity of the vessels was much diminished and now confined to the larger vessels. The spot in the macula had entirely disappeared.

Concussion and Eye Lesions.—While some authors explain all eye lesions following concussion of the brain as the result of either meningitis or fracture, this is manifestly impossible in the cases showing ocular symptoms immediately after the injury, and making a complete and rapid recovery. As most writers restrict the term commotio retinæ to the result of direct violence to the globe, we are obliged to place cases due to head injuries in a separate class. The fact that the condition has not been discovered oftener does not argue that it is of rare occurence, for the majority of the cases would ordinarily escape observation. The question suggests itself whether the spots occasionally met with in otherwise healthy retinæ, which point to old hemorrhages, may not be the mark of a previous traumatic hemorrhage. Holt and Neal have reported a series of cases of concussion, some of which were due to indirect violence. From these and from a few isolated cases we can make out a fairly distinct clinical picture of retinal concussion form indirect traumatism. Recovery is usually rapid and complete, but there is always the possibility of permanent impairment of vision. The cases due to indirect violence seem to be practically identical with those of concussion of the ball, when the blow is of only moderate severity. As no entirely satisfactory explanation has as yet been offered of the manner in which concussion gives rise to the retinal complication, Dr. Alleman was inclined to agree with Seely in throwing the burden on the neurologist.

Spurious Cases.—Dr. Alexander Duane said that genuine cases of the kind described by Dr. Alleman were very rare. Spurious cases are not uncommon. They comprise, first, those in which the eye itself has been directly injured by the force causing the concussion of the brain; second, those in which a disturbance of vision of a purely central origin, a hemiopia, for example, is present; third, cases, in which the disease of the fundus really antedated the concussion, but was latent or only slightly manifest.

Conditions Present in Genuine Cases.—The conditions obtaining in the genuine cases include commotio retinæ, as in Dr. Alleman's case (although commotio retinæ is much oftener due to blows upon the eye itself), hemorrhages, and, as isolated curiosities, retinitis and rupture of the retina. There may also be produced, as in one case of his own, a condition simulating retinal thrombosis. This is probably due to contraction of the retinal vessels resulting from the sudden reduction of the cerebral circulation. If the blood-vessels are already abnormally narrow, such contraction, as has been proved, may be extreme enough to cause the symptoms of a permanent occlusion. As regards commotio retinæ he thought the theory of a sympathetic involvement explained it most plausibly.

Case of Cerebral Concussion and Hystero-Epilepsy.—Dr. W. B. Noyes read this paper, which will appear later in the MEDICAL NEWS.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON ORTHOPEDIC SURGERY.

R. H. Sayre, M.D., Chairman *pro tem.*

Correction of Deformity.—Dr. Royal Whitman presented a patient upon whom he operated in 1897 for the correction of a very marked anterior bowing of both legs. The operation was an osteotomy of the tibia, fracturing of the fibula, division of the tendo Achillis and direct forcible correction of the deformity. He presented the case to show the good results; the operation seemed preferable to cuneiform osteotomy as it resulted in lengthening the bone somewhat.

Rotary Lateral Curvature of the Spine.—Dr. Whitman showed a girl with marked lateral rotary curvature of the spine. Four years previously he had treated her for clubfoot and had not seen her since. He advised for this patient manual correction and fixation in plaster jacket. He called attention to the complete range of dorsal flexion present in the foot. His treatment had been manipulation and the plaster bandage.

Dorsal Pott's Disease.—Dr. Whitman showed a boy treated for Pott's disease in the dorsal region with his anterior shoulder-brace in connection with the ordinary back-brace, and called attention to the fact that there was no forward inclination of the shoulders nor flattening of the chest, as is usually the case in deformity of this region.

Ankylosed Elbow-Joint.—Dr. W. R. Townsend showed a man with angylosed elbow-joint flexed just short of a right angle, to show the great range of motion preserved to an arm where the fixation of the elbow had occurred in a favorable position.

Pott's Disease Without Deformity.—Dr. Townsend presented a second patient who two years prior to his seeing him complained of pains of a girdle character in his back and abdomen. There was stiffness of the lower portion of spine, but no evidence of deformity. Diagnosis of Pott's disease without deformity was made and a plaster-of-Paris jacket applied. The jacket was removed after four months at patient's request; all pains had disappeared, and there was a question as to possible error of diagnosis. The patient subsequently returned with a large cold abscess in the left lumbar region, with psoas contraction. The man felt no pain and was unwilling to have jacket reapplied. The abscess and spinal stiffness made the diagnosis of Pott's disease certain. Dr. R. H. Sayre said he had under observation a case similar to the one of Pott's disease shown by Dr. Townsend. The patient had girdle pains, pains down the thighs, difficulty in bending and great pain on being jarred; no deformity. Diagnosis of Pott's disease made and plaster jacket applied. Some-

time later the patient developed paralysis of both lower extremities. After a year the paralysis disappeared and a large pelvic abscess developed which was opened in the inguinal and lumbar regions. Later there formed in the opposite side another abscess which was opened. At present there is a very slight irregularity noticeable at the fourth and fifth lumbar vertebræ. The pressure of the abscess accounted for the paraplegia.

Fracture of the Neck.—Dr. Sayre showed a man who some months previously had fractured his neck by falling. Following the injury, he had paralysis of the lower extremities and partial paralysis of the upper extremities with no control of bladder or rectum. When seen by Dr. Sayre two months after the injury, the patient's neck was rigid. A diagnosis was made of fracture with dislocation of the third and fourth cervical vertebræ—verified by use of the X-ray. The treatment consisted in getting the head into a good position and applying an apparatus to support the head and hold the neck. The man had been under treatment three months and movements of head were good; apparatus would be discarded. He cited other cases, and said splints were frequently removed from fractures too soon and before good osseous union had taken place.

Deformities of the Elbow-Joint.—Dr. Samuel Lloyd read the paper of the evening, entitled: "The Operative Treatment of Deformities of the Elbow-Joint Resulting from Traumatism." He said three things were recognized in fractures into the elbow-joint: First, it is not always possible to tell even under an anesthetic and with the most careful examination just what the joint injury is. Second, it is not always possible to replace the fragments even approximately. Third, ankylosis results in certain cases in spite of any plan of treatment. All fractures involving or in vicinity of the elbow-joint should be examined under an anesthesia, and the fragments placed in apposition and the limb dressed in a position that enabled the operator to retain them in place most efficiently. He favored flexion. He was decidedly opposed to passive motion so much advocated by the older surgeons, believing that this caused an increase of callus and consequent diminished range of motion. Any passive motion in an elbow-joint until after the bone was firmly united was meddlesome surgery. If, when the splint was removed, motion did not return promptly by active motion (an attempt on the part of the patient to use it regularly) the deformity should be examined. If the joint did not yield under an anesthetic, then the difficulty was probably due to obstructing callus or a displaced fragment. He believed the ankylosis or limitation of motion due to bone and not to fibrous adhesions, provided there had been no septic complications. While his first operations and conclusions antedated the use of the X-ray, the latter had been corroborated by an extensive use of the X-ray. The overproduction of callus was a constant danger of producing ankylosis and was increased by any motion of the fragments during the period of union; provisional callus was objectionable, bone united in the same manner as the soft tissues, with but little granulation tissue, if firmly held together. The X-ray has been somewhat disappointing in solving all the difficulties of fracture work, since it gives only a shadow of the real object. The X-ray, however, so frequently illustrating dislocation complications, had emphasized the necessity of using an anesthetic in the first examination of fractures about the elbow-joint. The majority of cases of ankylosis of the elbow following fracture being due to bony displacement or to callus if non-operative measures were not successful in removing these causes, something should be done to put the bones in proper position. In compound fractures, all agreed as to what should be done—enlarge the wound and suture the fragments in position. But it was with simple fracture that he dwelt upon. At first sight cutting into the joint and manipulating the structures about the joint, including the capsule, would result in almost if not absolute fixation. Such had not been his experience; the fear of attacking a joint surgically was largely a relic of pre-asceptic times.

He cited the different fractures occurring in the vicinity of the elbow-joint and illustrated his paper by a series of skiagraphs of cases he had operated upon, one, a supracondyloid fracture of the humerus, where the difficulty was found to be due to both callus and displacement. The arm had been treated at an angle of 145 degrees, the condyles were carried backward while the shaft of the bone was drawn forward. In flexion the coronoid process of the ulna struck upon the mass of callus below the more prominent projection of the shaft, while the ulna rested upon the sharp end of the diaphysis in the complete flexion. This boy had a useless arm. The projecting portion of the diaphysis was chiseled off and a new coronoid fossa was cut out with a curette until complete flexion was possible. The result was remarkably satisfactory. In spite of the extensive dissection necessary to reach the anterior surface of the humerus and the consequent lacerating and bruising of the capsule and synovial membrane, flexion was obtained almost to the full extent. Skiagraphs were shown further illustrating varieties of fractures about the elbow-joint complicated by callus and dislocation upon which he had operated generally with success. He summed up the management of fractures of the elbow in the following words: (1) Examination and reduction under ether. If the latter is impossible, and it is evident that disability will result in consequence, immediate incision and dissection until the fragments can be forced into position and wired or sutured. If, however, this is still impossible, the fragments should be removed. (2) If ankylosis or marked limitation of motion results and does not prove to be due to fibrous bands, operation should be undertaken and everything opposing the proper

movements of the joint should be cut away. He said when he performed his original operation in 1894, he was unable to find any records of previous operations of the kind, but now many The open method of treatment had been advocated much earlier in irreducible dislocations of the elbow and it seemed strange that it was so late in coming into more general use in fractures. In all his cases, twenty-one in number, the posterior incision similar to that made for excision of the joint was employed. This answered well for manipulation of the olecranon fossa of the humerus or the injuries to the condyles. The difficulty of clearing out the coronoid fossa and managing the anterior displacements was greater. He varied the incisions according to the injury. The capsule should be as carefully opened and sutured as the peritoneum. He said one could scarcely be too radical in removing bone; it was better to try for both flexion and extension than to stop short of removal of any obstruction. After removal of bone he flushed the joint with hot normal saline solution, sutured the capsule carefully and closed the wound without drainage. Rest in flexed position for one week, then massage and active motion. Dr. Lloyd also presented two patients upon whom he had operated to further illustrate his paper.

Dr. B. Farquhar Curtis opened the discussion of Dr. Lloyd's paper with the remark that he approached these injuries followed by bad deformity of the elbow-joint with great caution; these operations were among the most difficult of surgical procedures and a great test of the asceptic methods of the operator. He thought suppuration was very apt to occur and if so, particularly if serious, the benefit of the operation was lost. Another point was the impossibility of calculating upon the production of new bone or of checking its formation, the overproduction being almost certain to occur. Again, fracture, particularly in children, was near the epiphyseal line and the surgeon was often confronted with the necessity for removing the epiphysis with the result of checking the growth of the limb. He differed with Dr. Lloyd in that he treated recent fractures of the condyles of the humerus with loss of the carrying point, in the extended position for ten to fourteen days, then flexing the elbow-joint—other cases in the flexed position from the first; massage began within the second or third week in all fractures near the elbow-joint. Dr. A. B. Judson commented upon Dr. Lloyd's use of skiagraphy, saying that he had not seen a more useful application of the X-ray to surgical procedure.

Effect of Flexion of the Spine on Rotation.—Dr. Judson exhibited a stick of sponge-rubber made to represent the spine, with pins in place of the spinous processes. The object was to see whether flexion or extension were able to affect in any way the rotation which accompanies lateral curvature. The model had been photographed (1) in lateral curve combined with flexion and (2) in lateral curve combined with extension, but it was seen that in either case there was no trace of rotation. Further observation and reflection brought to light the fact that the curve in either case was in reality a simple curve. Although produced by a combination of a lateral and an antero-posterior curve, it was in reality a simple curve lying somewhere between the two, the resultant of two forces, but with no more power to affect rotation than any other simple curve however produced. It had been suggested that if flexion could really be considered as causing rotation, its opposite, extension, would be useful in combating rotation. Too much, perhaps, could not be said in favor of forced extension, as in the treatment of Pott's disease. The immediate effect of this would be to transfer the weight from the bodies to the processes, which would be a good thing, as the processes were held near the middle plane and were, therefore, less abnormal in their position than the bodies which in curvature swung away from the middle plane. This freedom of the bodies combined with arrest of lateral motion on the part of the processes was what produced the phenomenon of rotation.

Dr. Charles H. Jaeger demonstrated the Lorenz hip redresseur—a simple and convenient apparatus for the application of bandage to the lower extremity, its chief use being to correct faulty positions of the limb and then to hold the limb in the corrected position while the fixation bandage was applied. Its advantages are (1) dispensing with one or two assistants; (2) retaining limb in position; (3) stronger traction than could be applied by hand and kept up evenly. He presented a patient wearing a Lorenz spica. Attention was called to necessity of carefully modeling the plaster over the iliac crests, also to the padding used—first, a tricot which enveloped leg and abdomen, then a thin layer of ordinary non-absorbent cotton cut in strips four or five inches wide, glued on both sides and applied like a roller bandage.

Dr. Sayre had seen an apparatus similar to the redresseur, devised by Bruns of Tubingen. He thought that of Lorenz superior. Dr. Gibney expressed himself as much pleased with the redresseur.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

READY REFERENCE HAND-BOOK OF DISEASES OF THE SKIN. By Dr. G. T. Jackson. Fourth Edition. Demi 8vo, 642 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By Dr. James M. Anders. Fifth Edition. 8vo, 1297 pages. Illustrated. W. B. Saunders & Co., Philadelphia and London.

NERVOUS AND MENTAL DISEASE. By Drs. A. Church and F. Peterson. Third Edition. 8vo, 869 pages. Illustrated. W. B. Saunders & Co., Philadelphia and London.

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SPECIAL ARTICLE.

THE UNIVERSITY AND BELLEVUE MEDICAL COLLEGE.

THE University and Bellevue Hospital Medical College in New York City is to-day an important force in medical education. It is like a river that has suddenly grown wide and deep enough to bear an ocean fleet, whereas before there were two streams subject to the conditions of drought and flood. In other words it is but three years since the University Medical College was joined by that powerful tributary, the Bellevue Hospital Medical College. To trace the course of these confluent streams that now flow in such a wide educational channel, we must start from two distantly separate sources, and follow their development of medical progress along different lines, up to the recent time of their converging and union.

The University Medical College is the main stream, although perhaps not the more celebrated of the two, for it had its rise nearly a quarter of a century before Bellevue College, in the days when the College of Physicians and Surgeons represented the sole medical center of New York City.

In 1838 a number of eminent practitioners who had at one time or another been prominent in medical institutions decided that in the growing city there was not only room, but need for another medical school, and accordingly broached to the New York University, then called the University of the City of New York, the idea that a medical school be founded in connection with that institution. The idea was accepted with an organized faculty of men whose names have since become famous; but before it became a reality circumstances arose which caused the prospective medical faculty to sever their connections with the New York University, and to offer their embryonic medical school to Columbia College. This step caused some alarm to the College of Physicians and Surgeons, whose influence against the new school led the Trustees of Columbia College to politely decline the budding faculty's offer on the ground that they feared a medical school would be detrimental to the Academic Department. After their rejection by Columbia College it was determined to apply to the Legislature for an act of incorporation.

The County Medical Society and the Trustees of the College of Physicians and Surgeons indorsed the application to the Legislature and all active opposition was removed. While action was thus pending negotiations were again opened with the University which were successful and the following were accepted as the Faculty of the Medical Department:

Professor Valentine Mott, Surgery; Professor Granville S. Pattison, Anatomy; Professor Gunning S. Bedford, Obstetrics and Diseases of Women; Professor John Revere, of Jefferson Medical College, Theory and Practice of Medicine; Professor Paine, Institutes of Medicine and Materia Medica, and Professor John W. Draper, Chemistry.

These six professors purchased the large granite building, known as Stuyvesant Institute, for the College. This building, with the exception of the University and the Astor House, was considered the finest building in the city and was situated on the western side of Broadway opposite Bond Street.

The founding and equipment of the Medical School proved so heavy a burden on the Faculty that they decided to apply to the Legislature for

GRANVILLE SHARP PATTISON, M.D.

pecuniary aid, accordingly Professor Paine appeared before the Legislature during the winter of 1844 with a petition which in spite of opposition obtained a grant of $3,000 a year for five years or longer. By an alteration, however, of the Constitution of the State, affecting all legislative grants, the College enjoyed this gratuity for three years only.

The College continued to be conducted in the Stuyvesant Institute until the year 1851 when the property was sold and a new and specially designed college building was erected on East Fourteenth Street between the Academy of Music and Third Avenue. At the time of its completion it was the best equipped and most commodious medical college building in the country.

The College remained at this location with gradually increasing classes until it was destroyed at the time of the burning of the Academy of

Music in the spring of 1866. The loss was not limited to the building, but many of the records of the institution were destroyed, together with collections in anatomy, chemistry, materia medica, botany, etc. Not only did the University Medical School suffer from the fire, but during the Civil War its fortunes ebbed so low, that its very existence was threatened. From its founda-

GUNNING S. BEDFORD, M.D.

tion it had attracted many students from the South, for a large number of its professors were Southern men, accordingly when the war broke out, and the men from the Southern States ceased to attend, and the Northern students enlisted, the classes were practically deserted. However, it soon regained its prestige and in 1879 one of the largest medical classes ever graduated in America

A. L. LOOMIS, M.D., LL.D.

(204) received diplomas from the Chancellor of the New York University.

After the fire the Faculty took up their quarters in the old New York Hospital which at that time occupied the square bounded by Broadway, Church, Duane and Worth Streets, but were compelled to give it up three years later on account of the sale of the property.

At the earnest solicitation of Professor Henry Draper, the late Cortlandt Palmer was induced to erect a building for the College at 426 East 26th Street, which he leased to the Faculty for a term of years, but this did not accommodate the rapidly increasing classes and as it was deemed impracticable to enlarge it, a new site was bought at 410 East 26th Street, and a building completed in 1874, which like its predecessor on East 14th

WILLIAM DARLING, M.D.

Street, was at the time of its occupation a model building for the uses of the school as medical education was then conducted.

In 1882 the property adjoining the College was purchased and a large dispensary building, with laboratories and class-room, was added to the equipment of the school, and in 1886 the Medical Faculty received a donation of $100,000 for the

JOHN WILLIAM DRAPER, M.D.

erection and equipment of a new laboratory building which, by the request of the donor, was to be known as the Loomis Laboratory.

To Alfred L. Loomis who occupied the Chair of Theory and Practice of Medicine from 1867 until his death in 1895, the College, alumni and medical profession owe a debt of gratitude and the present generation of medical men will always associate the University Medical College with his

name. As a didactic and clinical teacher he was unexcelled, as he had the rare gift of so impressing the student that after leaving the class-room he seldom forgot the points that had been emphasized during the lecture or clinic. He always had a keen interest in the welfare both of students and graduates and the interests of the College were always especially dear to him. It was largely due to his untiring energy in its behalf that the success of the College was so phenomenal.

The students who sat under the teaching of Professor William Darling will always have a vivid recollection of the picture he presented while conducting his lectures and at the same time occupying his hands, when not otherwise employed, with some useful work. As a pure anatomist he probably had no equal in the country. He devoted the greater part of his life to its teaching. His eccentricities were numerous and, although in comfortable circumstances, he practised the most rigid economy, having his rooms in the college building and lived surrounded by anatomical material and anomalies.

JOHN REVERE, M.D.

MARTYN PAINE, M.D.

The name of Draper, which has always been associated with the University as well as with the advance of medical science, was represented by three members of that distinguished family, Dr. John W. Draper, who occupied the chairs of physiology and chemistry, Dr. H. W. Draper who succeeded him in the former 1867, and Dr. J. C. Draper who took the chair of chemistry in 1865.

Among others the famous men that have been connected with the school were: Professor Samuel D. Gross, who occupied the chair of surgery for one session afterward going to the Jefferson Medical College, Professor John T. Darby who came from the University of South Carolina and remained with the College until his death, Professor Dickson who also came from the University of South Carolina and later was professor in Jefferson Medical College, and Professor William H. Van Buren who for a while was professor of anatomy and afterward became professor of surgery in Bellevue Hospital Medical College.

Not only have famous men begun their careers at the University Medical School, but another of New York's well-known schools of medicine owes its origin to the post-graduate course founded by the University in 1875. This was a course given by a "Supplementary Faculty" of professors for the purpose of facilitating the efforts of graduates in medicine who had come to New York to renew professional studies, and who after satisfactorily completing it received certificates. It lasted for seven years only and was then abolished.

The professors who had been interested in it, and who were separate from the Governing Faculty asked to be allowed to grant degrees instead of certificates and they also desired to have a separate system of fees, separate lecture-halls, etc., and to be allowed to share in the general government of the college; but after due consideration by the Governing Faculty it was decided that this proposal would not accord with the policy of the College and it was therefore deemed for the best interests of the institution to accept the resignations which were tendered by the majority of the post-graduate professors who seceded in 1882. The professors who withdrew from the College at this time were the founders of the present Post-Graduate Medical School.

An incident of great interest in the history of the Medical Department of the University is the part of the Faculty in obtaining from the Legislature an act legalizing the study of anatomy, as it was then a State prison offence to dissect any part of the human body for anatomical purposes. Professor Martyn Paine by his persistent and self-sacrificing labor at Albany succeeded in 1854 in having the objectionable law repealed and dissection legalized.

Previous to 1890 a large percentage of the matriculants at the University Medical College and at its sister institution Bellevue Hospital Medical College were from other States in the Union. With the passage of the Medical Law demanding that all those who received the degree from colleges within the State of New York

should obtain a medical students' certificate, issued by the Regents of the State of New York, a marked falling off in attendance was noted. This, together with the continued growing expense of conducting a medical college on account of the extensive Laboratory courses, etc., brought vividly to the attention of the Faculty the need of a closer association with the University proper, as up to this time the running expenses of the College and salaries of the Professors and Instructors were dependent upon the fees of the students; accordingly in the spring of 1897 the Trustees of the College property, most of them members of the Faculty, transferred it unconditionally to the University Corporation. But the most important step was that which was finally taken in 1898 when at the commencement exercises the official announcement was made of the consummation of the consolidation between the University Medical College and the Bellevue Hospital Medical College.

Thus, with the medical school that was cradled in a University was joined that school of medicine that has been the outgrowth of the most practical work of New York City. It was no sentiment of independence or jealousy that gave birth to the Bellevue School of Medicine, but rather the absolute prodigality of clinical material that was going to waste in Bellevue Hospital and that attracted so many students that, finally, in spite of themselves they formed a school.

The earliest reference to public instruction in this hospital that has been found is a short note in the "Medical Repository" for 1804 to the effect that Dr. Valentine Seamen had begun a course of lectures on the obstetric art intended particularly for the education of midwives. But the instruction given in other branches for many years was wholly informal. The physicians who gave their services for charity to the City's sick, walked the wards attended by their private students.

As soon as Bellevue Hospital was placed under the control of a medical board with division into a medical and surgical service, the board, as one of its first acts, made provision for an amphitheater which was formally opened March 2, 1849, by Dr. William H. Van Buren, who performed the operation of lithotomy. Notice was then given that students would be admitted without charge to the clinical lectures on every Friday at one o'clock. These clinics were continued for a little over a year, but during the ensuing five or six years clinics were held occasionally, but with no regularity. This, then, is the beginning of that clinical teaching with which the name of "Bellevue" has since become synonymous.

The desire that had ever actuated the Medical Board from its organization to apply the great clinical advantages in the hospital to the purpose of instruction received a new stimulus in 1857. This was the completion of a building to be used for pathological studies. It was due largely to the energy and zeal of Dr. James R. Wood and it contained a spacious lecture room and museum which is the "Wood Pathological Museum" of Bellevue Hospital.

W. H. VAN BUREN, M.D.

JAMES R. WOOD, M.D.

While this building was in course of erection a committee arranged a plan for clinical instruction, which was announced by Dr. Wood on the opening of the lecture room, October 19, 1857. This marked the beginning of opportunities for and work in autopsy and gross pathology and early left its impress upon the medical profession of the city. On December 18, 1860, at the request of the Board of Commissioners of Public Charities and Corrections, the Medical Board appointed a committee to examine and report upon the various institutions upon Blackwell's Island under the control of the Commissioners with a view to the medical departments of these institutions coming under the care of the Bellevue Board. In their report to the Medical Board this Committee recommended the establishment of a medical college in connection with Bellevue Hospital. The Medical Board approved of the suggestion and a committee was elected to confer with the Commissioners.

The Commissioners approved of the plan and

recognized that not only would the cause of medical education be aided, but the welfare of the sick poor would be greatly benefited by the founding of a medical school in connection with the Hospital.

These schemes rapidly took shape and in

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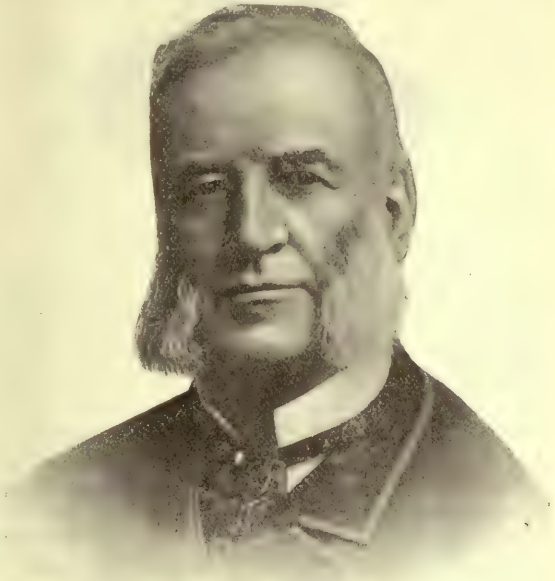
March, 1861, eleven out of the active members of the Medical Board signified their willingness to connect themselves with the proposed college These were Drs. Taylor, Wood, Hamilton, Sayre, Mott, Stephen Smith, Barker, Elliot, McCready, Gouley, and Loomis. The Board of Commissioners were enthusiastic in their endeavors to increase the value of the charitable institutions under their care by making them subserve more completely the cause of medical education and notified the Medical Board that they would allow a college building to be erected upon the hospital grounds. Steps in this direction were accordingly taken. During April, 1861, the following members of the Medical Board were elected to the Faculty of Bellevue Hospital Medical College, which was the title of the new school and chairs were assigned as follows: Principles and Practice of Surgery, Dr. Stephen Smith; Surgery of Bones and Accidents, Dr. Frank H. Hamilton; Operative Surgery and Surgical Pathology, Dr. James R. Wood; Surgical Anatomy, Dr. Alexander B. Mott; Orthopedic Surgery, Dr. Lewis A. Sayre; Obstetrics, Drs. Isaac E. Taylor, Fordyce Barker and George T. Elliot, Jr.; Materia Medica and Therapeutics, Dr. Benj. W. McCready; Principles and Practice of Medicine, Dr. Austin Flint; Anatomy, Dr. John W. S. Gouley; Physiology, Dr. Austin Flint, Jr.; Chemistry and Toxicology, Dr. R. Ogden Doremus.

The first exercises of the College, as such, were short courses given during April and May, 1861, by Professors Wood and Hamilton on points connected with military surgery, a subject which the breaking out of the war rendered particularly important. These lectures were attended by two hundred practitioners and students.

In the meantime the College had been incorporated and placed under the control of a Board of Trustees of which the Commissioners of Public Charities and Corrections were members. During the following summer the first building of the College was erected.

In June, 1861, Dr. Gouley considered that his duty demanded that he remain in the army during the continuance of the war, and he therefore resigned the chair of anatomy and Dr. Timothy Childs was called to fill the vacancy.

Probably the prospectus of the new school because of the war caused a falling off of students in the University School. The first session of the College was opened the following fall and from the beginning the capacity was taxed to the utmost, so that before the first session was finished the necessity for a larger building was felt, and it was proposed to procure ground opposite the entrance to the Hospital and build a new College outside the Hospital grounds. The Commissioners of Public Charities and Corrections, however, were unwilling that the College should go outside the Hospital grounds and proposed to erect a new building and lease it to the College. This proposal was accepted and in May, 1863, the Faculty of the College presented to the Commissioners a complete plan of organization for the Bureau of Medical and Surgical Relief for the Out-Door Poor. During the autumn of 1865 the Commissioners erected a large building within the Hospital grounds so arranged as to serve the



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purpose of College and Out-Door Poor. The lower floor was divided to answer the purpose of Dispensary and the upper part was leased to the Faculty for the use of the Medical College. This arrangement allowed of the use of clinical material not only from the wards of the Hospital,

but also from the Dispensary and enabled the Faculty of the College to develop the clinical teaching on the broad lines that was always one of its peculiar characteristics.

No change occurred in the personnel of the Faculty until the death of Professor Childs in September, 1865, at which time Professor Stephen Smith was appointed to the chair of anatomy, and the principles of practice of surgery which had formerly been under Professor Smith's charge were assigned to Professor Hamilton in addition to his other duties.

In 1866 the Faculty recognized the necessity of furnishing the students with instruction upon the special branches in greater detail than could be well considered in the course given by the professors of the seven chairs already demanded by the Charter of the School, and therefore in the spring of this year Dr. Henry D. Noyes, formerly demonstrator of anatomy, who had been holding clinics at the New York Eye and Ear Infirmary was made professor of ophthalmology and in the summer course, which was this year established,

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Dr. F. J. Bumsted was appointed professor of syphilology, Dr. Foster Smith, lecturer on diseases of the skin, and Dr. J. Lewis Smith, lecturer on morbid anatomy. Dr. William H. Van Buren was made professor of diseases of the genito-urinary system. In 1867 a chair of diseases of the mind and nervous system was established and Dr. William A. Hammond was elected. In 1871 dermatology under the charge of Professor E. L. Keyes and pathological anatomy under Professor Edward G. Janeway were introduced into the curriculum of the regular session. During this same year a medical clinic was established under the direction of Professor William T. Lusk, who had been elected a member of the Faculty to fill the vacancy caused by the death of Professor Elliot.

The members of the corps of professors who organized the College were far from being inexperienced. Many of them had already held chairs of their respective branches in other institutions, and others had been clinical lecturers in the adjoining Hospital and elsewhere. They were men thoroughly able and accustomed to teach the subjects assigned them. They were men in the prime of life; Taylor was 49, Flint 48, Wood and Hamilton 47, Barker 43 and Van Buren and Sayre 41. As they grew the school grew in reputation with them and by the character of their work in the wards and their zeal in teaching, they were indeed most influential in spreading the fame of Bellevue Hospital as a great center for clinical instruction, so that their names became a guarantee throughout the land of the value of the instruction given at Bellevue Hospital. A word of reminiscence concerning these men cannot fail to recall the personalities that made the school famous.

Dr. James R. Wood was a comparatively small man physically, mentally, however, of more than usual proportion. A man of earnest action and loyal attachments, not only to his friends, but to every duty belonging to his station and line of action that commanded his attention. He was scrupulously neat in his attire on all occasions and when visiting the hospital wards wore a boutonnière. His interest in Bellevue Hospital and also in the school bearing a somewhat similar name was indefatigable and decided in its outcome. Rapidity of action characterized his operative procedures and clearness of judgment and wisdom his consultations.

Dr. Isaac E. Taylor was a man of generous impulses and of almost feminine instincts. He was ever ready to listen to the requirements of need and prompt to extend abundant assistance. He was keenly interested in the professional honor of those engaged in medical calling, and severe and rapid in his condemnation of those who by word or action brought censure or reproach upon the profession of medicine.

Dr. Hamilton was courteous in every association to his fellow-men, professionally and otherwise. As a medical teacher, he had few equals and the uniform consideration shown by him to every member of the class promptly established a mutually strong, respectful attachment between

them. His concise and scholarly expressions, illustrative of the subjects under consideration, characterized him as a teacher and a debator upon surgical topics.

Dr. Mott was an operating surgeon of high order whose rapidity of action and success in this line bespoke the instruction of his famous father. His lessons in surgical anatomy were practical and contributed largely, indeed, to make the operative labors of those who were privileged to listen to his instruction lighter and fruitful of good results.

Dr. McCready's instructions in materia medica and therapeutics were emphasized not infrequently by illustrations so characteristic of the genial and humorous nature of the lecturer as to make it impossible for one to forget the points he wished to impress. He was a gentleman of more than usual professional and literary attainment and one always welcome in circles characterized by genial relations and scientific attainments.

Dr. Elliot was polished in his manners, appearance and education to the fullest extent. He was courteous to all who indicated by their attention their interest in his efforts to instruct them and prompt to rebuke unwarranted liberties and inattentions that not unfrequently characterize the lecture-room and hospital wards. He seemed desirous that all those with whom he came in contact should have in view the same high standard of thought and action that characterized his intercourse with the unfortunate and suffering in the professional walks of life. His death was an irreparable loss to the school with which he was connected and to the medical profession of which he was a highly respected and useful member.

It is owing to the excellent executive ability of Dr. Lewis Albert Sayre that the school made such strides in these early days. Dr. Sayre graduated from the College of Physicians and Surgeons, New York, and was appointed a prosecutor to the professor of surgery at this institution. In 1853 he was made surgeon to Bellevue Hospital. He soon became professor of orthopedic surgery and fractures and luxations in the new school.

It was due to Dr. Sayre in large part that New York has developed such an excellent sanitary system, for he served as resident physician of the City of New York. His quarantine provisions were well in the foreguard of modern scientific progress and served as efficient barriers to the entrance of several severe epidemics to New York City.

When in 1882 the death of Professor James R. Wood occurred followed soon after (1883) by the death of Professor Van Buren, it was not the College alone, but the Hospital and the medical profession at large that suffered also. Flint and Hamilton were the next to follow in 1886. Seldom is it that any college is called upon to sustain such grievous losses in its teaching body and many are the men throughout this country who revere the memories of these masters of medicine and count themselves fortunate that they have these names added to their diplomas.

The year 1889 marked the death of President Taylor and of Professor Mott. Professor Taylor had been President since the foundation of the college, but had not been actively teaching, having been emeritus professor of obstetrics and diseases of women and children since 1867.

Dr. E. G. Janeway was promoted to the full professorship in medicine on the death of Professor Flint. Professor Janeway had joined the school in 1872, coming from the Medical Department of the New York University where he had been professor of physiological and pathological anatomy. Professor Janeway resigned the chair of medicine in 1892 and was succeeded by Professor A. Alexander Smith, '71, who had for thirteen years been professor of the subjects of materia medica and therapeutics.

The chair of anatomy made vacant by the decease of Professor Alpheus B. Crosby had been held by Professor Joseph D. Bryant, '68, since 1878 when in 1883, after the death of Professor Van Buren, he was appointed clinical professor of surgery and associate professor of orthopedic surgery, while still retaining the chair of anatomy. Dr. F. S. Dennis was made professor of the principles and practice of surgery.

Another great loss to the College during this period was that in 1884 when Dr. William H. Welch, Professor of Pathological Anatomy, resigned to take the professorship of pathological anatomy in Johns Hopkins University.

In 1884 the College received a donation of fifty-thousand dollars from a member of the Board of Trustees, this sum to be devoted to the erection of a suitable building for laboratories and the purchase of apparatus. Members of the Board of Trustees and other friends of the College provided a lot of land on East 26th Street, fifty by one hundred feet, a short distance from the hospital and the new building was erected here. This building was opened for work in 1885 and was devoted mainly to laboratory work in physiology, pathology, therapeutics and other departments of medicine. It was with the view of fostering original research in the newer science of bacteriology and of disseminating a practical knowledge of what had already been developed that Mr. Carnegie made his generous gift to the College. This College was, therefore, one of the earliest beneficiaries of Mr. Carnegie's gifts.

It is this fine equipment together with the record of the life work of brilliant men that the Bellevue Medical School has brought to the University Medical School in the act of consolidation.

The teaching forces of the two colleges, which now numbers 120; the completion of the new college building on 26th Street; the thorough equipment of the laboratories, the opening of the new clinic, where over 40,000 patients are treated annually, together with the clinical material available in the Hospitals under the Department of Charities and also the private hospitals of the City, offers to the medical student and graduate facilities for a thorough medical education and practical training.

ORIGINAL ARTICLES.

ACUTE RHEUMATISM.

BY WM. WATT KERR, M.D.,
OF SAN FRANCISCO;
PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF CALIFORNIA.

IN INTRODUCING the subject of acute rheumatism, I shall first present as illustrations of the disease two patients from the wards. The important points in the histories are included in the following abstracts.

Case I.—Male, age thirty-three years, rigger by occupation, and served in the army for two years during the recent war. The family history is good, there being no rheumatism in the family so far as he is aware. Had measles, mumps and diphtheria when a child; there is no specific history nor former attacks of rheumatism, but he drinks to excess occasionally. More than a year ago he dropped from a height of fifteen feet and landed in an upright position upon a stone floor; no bones were broken, but he was unable to walk for nearly four months on account of pain in the ankles.

His present illness began a few days before admission to hospital with dull pain in the left knee, which in forty-eight hours became very intense and was accompanied by swelling and redness; the pain extended to the left ankle, then to the right ankle, and there was marked pain and tenderness along the left sciatic nerve, but no loss of power. At the same time he had a smothering sensation in the left chest, and on examination a well-marked systolic mitral murmur was discovered; in addition to this there was pain as well as other signs of pleurisy on the same side. The degree of fever was moderate.

The patient was given twenty grains of salicylate of soda every two hours, and a small blister was applied over the precordia, with the result that, within twenty-four hours, the pain had almost disappeared from the joints, the cardiac murmur was much less distinct, and at the end of four days the patient was free from pain, while, so far as physical signs were concerned, the heart had become perfectly normal. Five weeks later he was transferred to the surgical wards on account of a slight rectal trouble from which he had suffered for some years, and on his return to this ward I found him showing signs of peripheral neuritis in both lower limbs, and from dropsy in the lower limbs. Examination showed the area of cardiac dulness increased, together with a weakened pulse, which suggested the existence of myocardial changes.

Case II.—Male, aged thirty-one years, milker. The only important points in his personal and family history are that his father suffers from rheumatism and that he himself has had three previous attacks. Prior to his present sickness, he suffered from slight pains in his feet, but the acute attack began with pain, swelling and tenderness in the left knee, which two days later shifted to the left hip, then to the right knee, and afterward to the right foot; then the left shoulder and left wrist became involved in the order mentioned. On admission, a faint pericardial friction could be heard, which for a time became more pronounced, and did not finally disappear until nearly four weeks after admission. He suffered from profuse perspiration and fever, with an evening exacerbation, which on one occasion rose to 103.2° F.

The treatment was similar to that adopted in the former case and yielded as speedy results, but there have been three relapses due to the fact that it was absolutely impossible to keep the patient at rest after the pain had disappeared from his limbs. One of these relapses was associated with endocarditis.

A comparison of the two cases shows points of similarity and difference. Both patients had fever, sweats, and endocarditis; in one, the joint symptoms were well marked; in the other, they were of medium severity, but this patient suffered from sciatica.

Such are the symptoms of two average types of rheumatism. How far can they be explained by the pathology of the disease? Unfortunately, our knowledge of this subject is still very deficient, but for the last fifteen years the belief has been increasing that rheumatism is an infectious disease due to the introduction of a microbe; indeed, the nervous, the humeral, and neuro-humeral theories have all proven so unsatisfactory that they may be omitted from the present discussion.

It has been suggested that the disease is simply an attenuated pyemic infection, but, while the symptoms resemble those of pyemia, close observation shows sufficient difference to warrant the hypothesis of distinct poisons. The tendency of pyemic infections toward suppuration affords a marked contrast to the extreme rarity of suppurative changes in tissues which have been affected by rheumatism. Another theory, based chiefly upon studies of malignant endocarditis, ascribes rheumatism to a mixed infection, but no satisfactory bacteriological support has been found for this hypothesis. The subject is still further complicated by the fact that at least three micro-organisms have been discovered, each of which has some claim to be regarded as a factor in the production of the disease.

Recently Poynton and Paine have pubished the results of some observations and experiments regarding a diplococcus, which is probably identical with that described by Triboulet in 1897. In twelve consecutive cases of rheumatic fever, these gentlemen have isolated a diplococcus which, when injected into the veins of rabbits, has produced polyarthritis, pericarditis, valvulitis, pleurisy, pneumonia, chorea and nodules; all the lesions were non-suppurative in character. This micro-organism has been obtained from the blood, urine, and tonsils of the patient suffering from rheumatic fever; while after death it has also been discovered in the peri-

cardium, cardiac valves, pleural and pericardial exudations, and rheumatic nodules. A study of its life history in the human and animal tissues leads to the belief that it is destroyed at the sites of the local lesions, although there frequently remains some damage to the tissues in which the diplococci were localized. These investigators very justly claim that they have discovered a cause of rheumatic fever, but that they are not yet in the position to demonstrate that their diplococcus is the only cause.

Rheumatism is a general disease in which there is a tendency toward inflammation of the serous and synovial membranes, and consequently the symptoms must be sought not only in the joints, but in every part of the body where serous or synovial membranes exist. Apart from the bacteriological testimony, there is an abundance of clinical evidence to warrant the conclusion that the disease is general and not local, and a recognition of this is necessary to enable a discrimination between this malady and the numerous painful affections of the muscles and joints which for so many years have been described as "rheumatic."

The rheumatic attack may occur suddenly, but more frequently there is malaise for two or three days as in both of these cases, and then the pyrexia and other symptoms of the disease appear. From charts of each case, it is evident that there is not anything typical in the fever of rheumatism; generally it is, as in Case II., of moderate severity, about 102° or 103° F., with the maximum temperature in the evening, but it may be absent as in Case I., where the temperature never rose above 99.2° F., until after the patient had been in the hospital for five days, when it reached 101.8° F., but returned to normal within four days. The statement that the fever varies with the number of joints affected is incorrect and misleading. It is by no means uncommon, especially in children, to meet with very slight and transient joint symptoms, but with high fever and frequently inflammation of some other membrane, such as the endocardium or pleura, and I have seen two cases of fatal hyperpyrexia in which the pain in the articulations had almost disappeared, in the one case for more than forty-eight hours, and in the other for nearly thirty-six hours, before the pyrexia began to increase. It is quite true that in the majority of cases in which many joints are involved the fever is also well marked, but this does not demonstrate any causal relation between the inflamed joints and the degree of fever; it is simply a coincidence due to the fact that the pyrexia and inflammation of the synovial membranes are due to a common cause.

In all infective diseases the more intense the infection the more marked do we expect to find all the symptoms, unless the toxin be sufficiently powerful to kill rapidly by an overwhelming influence on the nerve-centers; consequently, when we have a severe infection with rheumatic poison we expect high fever with well-marked inflammation of the serous and synovial membranes, and therefore conspicuous involvement of joints; but should the infection be mild, or become so, we would expect a corresponding diminution in the intensity of the symptoms. The excuse for speaking so forcibly upon this topic is the knowledge that some of you have not been engaged in the study of medicine long enough to divest yourselves of the popular belief that rheumatism is only an inflammation of the joints with visceral complications, and that some of the statements in text-books are capable of misinterpretation and consequent production of confused ideas, while a realization that all tissue changes are simply local manifestations is absolutely necessary to a proper conception of the disease.

Hyperpyrexia occurs more frequently in rheumatism than in any other disease, and it is one of the accidents that the attendant must be instructed to watch for even in the mildest cases; no disease so emphatically demands the regular use of the clinical thermometer. We have no positive indications of the approach of this misfortune, as it may take place where the local symptoms never have been severe, or the disturbance of the central nervous system associated with the rapidly rising temperature may blunt the sensorium so that the patient is less sensitive to pain. On the other hand, when the fever persistently remains in the vicinity of 103° F., and is not associated with any marked disturbance of serous or synovial membranes, or indications of pneumonia, we may feel particularly anxious and be ready to adopt active measures for its treatment.

Sweating is a symptom which was only well marked in one of the patients, but it is present in all cases of rheumatism to a greater or less degree; in some amounting to merely a moist condition of the skin, while in others the bedclothes become so saturated as to necessitate their frequent renewal. In many of the febrile diseases, sweating is associated with the advent of defervescence or the elimination of noxious substances from the system, but this is not the case in rheumatism; the excessive activity of the sweat-glands appears to be part of the disease itself and it is not due to any effort of Nature to counteract the morbid process. The peculiar sour smell of rheumatic perspiration is very characteristic and led to the idea that lactic acid, or some other acid, was being eliminated; but test papers applied to the surface of the body show that the reaction is by no means constant, being acid at one time and at others neutral or even alkaline; furthermore, the reaction may vary on different parts of the body. These facts would suggest that the sour odor and varying reaction are due to secondary changes taking place in the sweat constituents after secretion. This sweating is frequently accompanied by the formation of sudamina and miliaria.

In a large number of text-books the joint affections alone are regarded as local symptoms of rheumatism, while the cardiac, lung and pleur-

itic changes are described as complications. It is a very unfortunate arrangement and tends to obscure the real character of the disease, because, as we have seen from our preliminary review of the pathology, the inflammation of the endocardium, pleura and other serous membranes, is just as much a part of rheumatism as is the inflammation of the synovial membrane covering the joints. This is not a quibble in nomenclature, but the recognition of a fact that is of importance in treatment and prevents the tendency to gauge the progress of a case by the condition of the joints, which, although more conspicuous, are of secondary importance when compared with danger to life or possibility of permanent ill health that may follow even a slight lesion of the thoracic viscera.

The three characteristic features of arthritis as it is seen in cases of acute rheumatism are well illustrated in Case II. The larger joints are chiefly affected. The disease is polyarticular. The arthritis is metastatic.

The appearance of the affected joints varies. Sometimes there is not any visible alteration, but simply pain which is increased upon the slightest attempt at movement, while in other cases there is marked swelling, tension, and redness. The large joints are much more liable to be attacked than those of smaller size, and more than one is involved at the same time, except when the type has become subacute, and then it may happen that only one articulation is affected. Another peculiarity is the metastatic character of the pain, the inflammation suddenly disappearing from one joint to appear in another, very often in the corresponding part of the opposite limb, and then it may reappear in the original site. This clinical feature is possibly the strongest evidence of the general nature of the disease and finds its explanation in the statement already made that the micro-organism is destroyed at the site of the local lesion.

The coexistence of acute rheumatism and sciatica is not often so well marked as we found it in Case I. Probably this nerve trouble was simply a perineuritis, although rheumatism is capable of producing a true neuritis.

The physical signs indicating involvement of the thoracic viscera do not need any special description beyond calling attention to the fact that they may be as evanescent as those met with in the joints. Thus, in Case I., the cardiac murmurs lasted for a few hours only, and in Case II., the pleuritic attack was equally short. But although signs of endocarditis are often of brief duration it not infrequently happens that during convalescence, or even subsequent to that time, the signs of permanent valvular lesion may appear, and this happens because the rheumatic poison originates changes in the valve which lead to sclerosis and shortening of the segments. As the aortic valve segments are devoid of blood-vessels, it has been suggested that the micro-organism enters this portion of the endocardium through the epithelial cells lining the membrane. It has been demonstrated that the endothelial cells lining the vascular system have phagocytic properties, and hence it is not at all improbable that micro-organisms enter the tissues in this manner, and that in the exercise of their phagocytic functions the cells themselves are injured.

The injury to the myocardium is not easily estimated during the rheumatic attack, as there are so many conditions at this time, apart from myocarditis, to influence the pulse. Case I. has been convalescing for nearly eight weeks, but has been detained in hospital on account of some slight rectal trouble requiring surgical treatment; during the last fortnight he has developed edema of the feet and lower limbs, with diminished pulse force, although no signs of valvular lesion can be detected and the urine is normal. Evidently the myocardium had become weakened so that when the patient resumed active habits it yielded under the strain.

Remember also that the heart may become involved, especially in children, so insidiously as not to give rise to any special symptoms sufficient to attract the attention of the physician, and hence a constant watch must be kept for the appearance of the physical signs indicative of each lesion; the heart should be examined regularly without waiting until the patient complains of dyspnea, faintness, or pericardial pain.

Sore throat, which is a very common symptom, was absent in both of these cases. So frequently is tonsillitis found among the early signs of rheumatism that the tonsils are regarded by many as the great port of entrance of the rheumatic poison into the body.

In the treatment of rheumatism, rest in bed is an essential factor, and should be maintained for at least ten days after the temperature has become normal and all other symptoms of the disease have disappeared. Freedom from pain in the joints must not be taken as the indication for allowing any indulgence to the patient, because cardiac changes may arise after the joints have recovered; furthermore, myocardial changes may exist with very few symptoms until the muscle yields under imposed strain, and therefore the patient should be kept at rest so that both myocardium and endocardium may have ample opportunity to recover from any injury to their structure.

Sodium salicylate is the remedy most frequently used in the treatment of rheumatism. It should be given in doses of twenty grains every two hours until the fever is reduced and the acute articular pain subsides, after this the intervals between the doses may be increased to four or six hours, and continued in this way for at least four weeks. If the drug be discontinued before this time, the patient is almost certain to suffer from a return of the symptoms, and hence it has been said that acute rheumatism, like other fevers, is a self-limiting disease and that salicylates do not shorten its duration, but merely prevent its injurious effects upon the tissues. The manner in which salicylates act is a matter

of much discussion and must remain so until we have a more perfect knowledge of the pathology of the disease. Clinical evidence appears to encourage the idea that the benefit is obtained from the destruction of toxins, but the fact that the malady recurs unless the remedy is continued for a length of time does not prove the absence of a direct effect upon the micro-organism, because it is a well-known fact that quinine, when properly administered, destroys the parasite of malaria fever, nevertheless if it is not continued in smaller doses for two or three weeks after the plasmodia have disappeared from the blood the chance of relapse is as great as in rheumatism when the salicylates are prematurely discontiued. The solution of the problem awaits a more perfect knowledge of the micro-organism.

The salicylates may distress the stomach, depress the heart, cause delirium or other nervous disturbance, produce albuminuria, or give rise to a variety of skin eruptions. The gastric trouble is often due to the sweetish taste of the drug which may be obviated by the addition of some bitter preparation, such as gentian, to the solution. The cardiac depression may be prevented by the simultaneous use of stimulants, and the nervous disturbance alleviated by the free administration of bromides; yet it sometimes happens that the drug must be discontinued for some of the above reasons, and in the case of albuminuria its temporary or permanent interruption is imperatively demanded. Salicin or salol may be substituted for salicylates except when there is renal disturbance. In addition to the salicylates, an alkali, such as the citrate of potash in twenty-grain doses, should be given so as to maintain the alkalinity of the blood, because clinical statistics show that in cases thus treated there is less tendency to fibrinous deposits upon the valves. Cardiac complications are often cut short by the application of small blisters over the precordia. Of course under such circumstances there is the most urgent necessity for insisting upon absolute rest. This method of counterirritation is not only recommended for the cure of cardiac lesions, but its adoption is advised as a preventive measure in all cases of acute rheumatism. The tepid bath, 70° to 75° F., is the only reliable treatment for hyperpyrexia, and it must be carried out with the precautions already discussed when talking of the bath treatment in other febrile diseases. It is not advisable to do much for the joints beyond keeping them warm and rolled up in anodyne fomentations; blistering and other forms of counterirritation are more useful in the subacute types where the pain is more liable to become limited to one joint.

At first the food should consist chiefly of milk, but, as the symptoms abate, broths, farinaceous substances and white fish may be gradually added to the dietary. During convalescence there generally is a condition of anemia which is best treated by some form of iron such as Blaud's pills.

ANESTHESIA AND ANALGESIA. A STUDY OF DRUG ACTION AND MODERN METHODS.[1]

BY WILLIAM SEAGROVE MAGILL, A.M., M.D.,
OF NEW YORK;
FELLOW OF THE AMERICAN ACADEMY OF MEDICINE; MEMBER OF THE AMERICAN MEDICAL ASSOCIATION AND OF THE MEDICAL SOCIETY OF THE STATE OF WEST VIRGINIA.

Half a century ago there was little need of differentiating analgesia from the general term of "anesthesia," alone in use at that time, for medical science then stood so near the threshold of modern progress over which ether had stepped that its rival, chloroform, was scarcely known by name. The vast field for the application of anesthesia was hardly realized, nor was there any conception of the possible number of the anesthetic agents now in use, nor the variety of action or methods at present distinguishable for ether or chloroform alone.

The production of anesthesia by drug action has developed so great a variety of methods and agents that a study of the subject in general requires a classification.

By defining anesthesia as a more or less prolonged suspension of central perceptions of an impression transmitted through the usual or special sense channels (unconsciousness), we eliminate from consideration as anesthetics such agents as may be used to paralyze the sense organs themselves and thus make impossible the generation of a sense (peripheric) impulse. A special condition of the latter class of agents might require that by purely physical means should be produced the paralysis of the peripheric sense organ, such as is due to the mechanical congelation of the local tissues. In this class belong the so-called local anesthetics, of which the ether spray was the pioneer and the present methyl or ethyl chloride tubes are the more modern developments. The action in all of them is the same—an evaporation cold which arrests the functional life of the affected tissue cells, *i.e.*, their congelation.

None of the chemical compounds of this physical class have any other action that is to be considered as a property of the local anesthesia thus engendered. There are others of the so-called local anesthetics which possess veritable pharmacological properties, extra- and intracellular in their action. Of these, the salts of cocaine, whether in topical application or by infiltration, offer the most typical examples, preventing sense perception by suspension of the peripheric cell vitality, resulting from the temporary vascular constriction, the pharmacological peculiarity of this drug. In this case only the local anesthestic effect is to be considered and alone is desired. The symptoms caused by the introduction of cocaine into the general system are by no means those of anesthesia. In its action by vascular constriction this agent becomes typical of the extracellular division of its class. Pericellular would be a more exact designation term, referring thus to

[1] Read at the thirty-fourth Annual Meeting of the Medical Society of the State of West Virginia, Grafton, W. Va.

the pericellular vascular system, the constriction of which suspends intracellular diffusion and, as a consequence, all vital functions of each affected cell.

A bastard type of such anesthesia, but this time intracellular, in so far as it depends upon the destruction of the cells themselves, is the loss of sensibility of tissue that is characteristic of the more or less caustic antiseptics—the phenol group—and those nitrogen-containing molecules so invariably alkaloidal, from the simple hydrogen cyanide though the hydrogen, carbon, nitrogen amines and alkaloids, up to the oxygen-containing complex molecules of alkaloids, such as aconite or atropine, in all of which the contained nitrogen marks for destruction one or more of the cellular elements of the tissue, and, on such intracellular disruption, conditions the non-transmission of a sense impression.

To consider the foregoing agents as in any sense productive of anesthesia would depart widely from the general definition of that state which, understood in its original intent, requires a general unconsciousness. In all of these agents of local anesthesia mentioned, no general unconsciousness is understood nor permitted to exist. Only the limited locality, submitted to the influence of the agent is allowed to undergo a greater or less alteration of normal sensibility. And not even for the locality affected is there of necessity a complete inaptitude for sense impression. In many cases it is easy to demonstrate that the muscular sense remains, also the perception of cutaneous or mucous contact, and frequently even the power of distinguishing degrees of heat or cold persists indefinitely, with little impaired accuracy, when cocaine infiltration is used.

By pushing to an ultimate analysis the majority of cases for which anesthesia is demanded it will be found that no condition of unconsciousness is either wanted or necessary; not even a localized tissue anesthesia is requisite. All that is usually demanded of an anesthesia, the object of the use of such an agent, is the suppression of pain, only one of the many impressions which sensory nerves convey to the brain.

In most surgical cases, what does it matter if there be consciousness of touch, of heat or of other sense impression, provided that there be no knowledge of existing pain?

The inability to receive a pain-impression constitutes the state of organism defined as analgesia, a term which applies to any painless condition where the remaining sensibilities of the organism are, to all intents and purposes of drug administration, to be considered normal.

In contradistinction to anesthesia we may say that analgesia is a necessary element of the former, but the latter term is only applied to a condition in which no trace of the former is essential or desirable.

For the reason, then, that the so-called local anesthetics never induce a general unconsciousness of the organism to its surroundings, and that the most typical of the group is most decidedly analgesic and not anesthetic at all, let us pass them without further comment than the preceding notes, remarking their generic name of local to distinguish sharply the fact that the entire group—with an exception to be taken up later—are to be thus used as they are rigidly excluded from any general action upon the organism.

Their exclusion from any general action accords to this group, however, a much valued factor of safety, *i.e.*, the absence of dangerous reaction of the general system which assumes a most threatening rôle when real anesthesia is considered. For by definition this last condition alone is resultant of a general drug action upon the entire organism, that which is invariably to be considered as a general intoxication. To produce, then, a general intoxication of the body, prevent all consciousness, but have untouched the vital reflexes of organic life, rapid in induction and in recovery, and affecting to the least possible degree the tissue life and function outside of the desired period of suspended sensibilities, would be the proper idea of anesthesia.

For the means of producing such conditions in ideal perfection, the search is never ending.

First in the order of discovery and still foremost in popular use are nitrous oxide and ether. Equaling, if not more efficacious, although decried as more dangerous, comes their tremendous rival, chloroform, and more recently, exactly as the latter agent concentrates the attack for advantage in a comparison to ether, for the reason that both are eligible for choice for prolonged action of the drug; the nitrous oxide, which (except by special provision) is restricted to a short effect, is as seriously rivaled by the growing claims to a predominant place for ethyl bromide.

There is scarcely any medical journal which does not devote some portion of its space to a report of the struggle for supremacy of the giants of anesthesia—ether and chloroform—or of its skirmishers, the quick-acting agents of short narcosis—nitrous oxide and ethyl bromide.

The dissemination of modern science and its methods of investigation is now so extensive that a body of medical men when investigating the claims of superior adaptability of one or the other of these agents, no longer contents itself nor even considers as of scientific value the relation of individual habits and preferences. The falsehood of statistics is widely admitted and more widely felt when applied to our own experiences. Whatever value experience meetings may have in other fields, the increasing precision of the medical sciences has already attained the level which demands that the full bearing of the fundamental and scientifically controlled facts of the matter at issue be shown before that any experience testimony is acceptable for a solution of the problem of the relative desirability of anesthetic agents.

The object of this paper is to state briefly the usual physiological action of some anesthetics competing for popular favor, and then to point out possible deductions and therapeutical conclusions.

The property of tissue intoxication rapidly producing anesthesia with a minimum of organic shock or reaction is possessed by the simple radicals of the first open chain of hydrocarbons, the saturated series. Taking the first radical of this series, methyl, CH_3—and the second, ethyl—CH_3, CH_2—as types of reference, with the preliminary statement that the property of anesthesia is by no means limited to them but belongs equally to the radicals of this and other open hydrocarbon chains (the unsaturated chain-series, we find by biological experiment to determine relative toxicities (toxic coefficients) that these are least for the simplest saturated carbon radical methyl (CH_3).

The toxicity increases in direct ratio to the concentration of carbon in the radical, as does also the rapidity with which anesthesia can be induced, provided for the latter event that the method of administration be such that the dose-time relation can be maintained unchanging throughout the experimental series. That is to say, in case of administration by inhalation, that there be no marked difference in vapor tension of the successive drugs of the series compared.

The increase of toxicity directly with the concentration of carbon in the radical is nicely demonstrated, together with the increased rapidity of action in the use of acetylene gas C_2H_2. With this agent the anesthesia is induced with great rapidity of action, the passage to the unconscious state being almost instantaneous, but the great excess of relative carbon in the radical gives such a factor of toxicity to the compound that a dose sufficient to produce any pronounced degree or extent of anesthesia is invariably fatal to the life of the organism.

The introduction of oxygen to the hydro-carbon molecule, the formation of an ether, for example, CH_3, CH_2—O-CH_2, CH_3, ethyl ether, apparently renders the anesthetic no more toxic, but slower to induce and so modified that a complete unconscious condition is only to be obtained after a more prolonged and violent stage of cerebral excitement, than is usual where hydro-carbon alone or their radicals combined with the halogens chlorine, bromine, or iodine are used.

The compound formed by any halogen with the organic radical shows greatly increased toxicity and this toxic factor multiplies directly with the number of elements of the halogen introduced into the molecule and likewise directly with the relative density or weight of the halogen in question. Thus the chloride of methyl, CH_3 Cl, is far more toxic than its radical CH_3, or the higher radical ethyl, CH_3, CH_2. In return it is of greatly increased anesthetic energy, a smaller amount of the agent being required to effect unconsciouness and maintaing this for a longer period.

In the same way, the further addition of the molecule forming the bichloride of methyl, CH_2, Cl_2, develops a still greater toxicity as well as energy and the further chlorination of this compound, making chloroform, the tri-chloride of methyl, CH Cl_3, represents the maximum chlorine saturation of the radical and by the same formulation shows the physiological toxicity and anesthetic power of this drug surpassing any of the simpler hydro-carbons, their radicals or oxides (ethers).

By reason of the hyperchlorination of its molecule, chloroform is justly proclaimed more toxic than its rival, but an offset compensation is constituted by its correspondingly increased anesthetic energy. In other words, a much smaller amount of chloroform than of ether, or the lower methyl chlorides would be fatal. On the other hand it is evident that by reason of the increased anesthetic energy of the first article, no such quantity of it is required for the desired effect as would have to be employed for the like effect when the other anesthetics, above enumerated, would be used.

Whether the relatively small dose of chloroform be more, less, or equally toxic to the organism when compared with the larger doses of ether or similar agent that must be employed for an equal physiological response is the precise question to determine the rivalry of these anesthetics and within these limits alone is there field for discussion.

To continue our general laws of toxicity we repeat that this factor is increased directly as the weight of the halogen combined with the radical. That is to say, the substitution of bromine instead of chlorine, in equal numbers of atoms, determines a greater toxicity for the resultant bromide. The elements of the halogen family, of atomic weight heavier than bromine so greatly increase the toxicity of the molecule as to render such compounds dangerous in doses too minute to induce any symptoms of anesthesia.

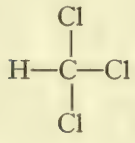
The change of molecule containing chlorine to the similar bromine substitution product by no means increases the toxicity to the degree that the introduction of a second like halogen atom to the radical effects. This means that a mono-bromide is in any case less toxic than the bichloride of the same radical—the administration of either kept below the point of tissue saturation.

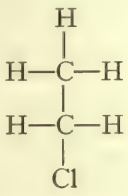
In confirmation of the above we observe that whereas chloroform, CH Cl_3, is safe for internal administration even in doses to the point of producing a marked effect of general anesthesia; almost the same amount of bromoform, CH Br_3, is permissible; but when the additional toxic factor of concentrating the carbon in the radical is added to that of the halogen combination the danger line is soon reached. For example the chloride of ethyl, CH_3, CH_2 Cl, is a comparatively safe and valuable anesthetic, the ethyl bromide, CH_3 CH_2 Br, is also harmless to the point of induced anesthesia, but must here be stopped to avoid the administration of a quantity which by reason of the increased toxicity of the molecule soon threatens the vitality of the tissues, the penalty of their saturation by this drug.

The difference in the toxicity of the chlorine and the bromine molecule is here most strikingly shown.

Notice that the mono-bromide of ethyl, CH_3, CH_2 Br, is harmless for a short administration, but must not be continued, by reason of the accumulating dose rapidly carrying its action across the line of safety. On the other hand the mono-chloride of ethyl, CH_3, CH_2 Cl, can be used for a relatively prolonged anesthesia and by many investigators, with strong physiological experiments to back them, the fact is insisted upon that it is essentially a far safer agent of anesthesia than chloroform, the tri-chloride of the safer radical methyl.

Place the chemical formulæ in antiposition and judge for yourselves.





Exception taken for the molecular differences and consequent wide variation of toxicity, the two rival anesthetics, ether and chloroform, possess very similar physiological properties. Both are best and practically exclusively administered by inhalation in order, by reason of the extended area of absorption surface offered by the areolar tissue, to secure the rapid saturation of the blood to exactly the requisite degree at the same time maintaining the minute control of dose of the inhaled vapor which is essential where such active agents of intoxication are employed to bring about a necessary general reaction, the least over-effect or prolongation of which would be dangerous if not fatal to the life of the organism.

The wide limits of quantity within which ether can be safely used render its method of exhibition of relatively small importance and the only requisite of apparatus insisted upon is an arrangement for sufficient aeration of the inhaled vapor to prevent the asphyxia resulting from the more or less mechanical exclusion of air, a defect of the usual ether cone if too closely applied over the mouth and nose.

The exigencies of utilization of chloroform are different. Recent contributions to our knowledge of its toxicity have established as absolute the necessity of administering this agent in small (drop) doses, its vapor largely diluted with air.

That the successful chloroformization depends much more upon the skill and intelligence of the anesthetizer than upon the form of administration apparatus or special method, provided that the exhibition of the agent in small continuous doses be adhered to, is shown by the recently published report of the Anesthesia Commission of the British Medical Association. In this report in which the cases of narcosis are confined to the large English hospitals, where skilfully trained and expert anesthetizers are invariably employed, it is exceedingly interesting to note that the danger rates range from 1 to 2.14 per cent. regardless of mask, cone or compress methods.

The intricate physiological changes induced by any general intoxication sufficiently indicate that the safety lies far more in the experience and knowledge of the man, who controls the agent producing these phenomena, than in any mechanical device or routine method.

Let it suffice then to insist upon the pharmacological education and clinical training of this man, with an additional plea—other things being equal—for the simplest apparatus and method *always with small doses*. This would favor the adoption of the *compress* and *drop method* for the habitual exhibition of chloroform.

Ether and chloroform in small initial doses, acting upon the sympathetic nervous system, quicken the beat of the heart and produce a peripheral vascular congestion, perspiration and salivation. But both act promptly upon the cerebral cortex, stimulating the organ by irritation, excitement—action, but with a difference in degree of intensity and of time; chloroform shows the stronger and briefer irritation that of ether being more mild but prolonged.

A reference to the physiology of cortical irritation in the motor region reveals the consequent obligatory reflex action to be a quickened respiration in response to a feeble irritation, with an accompanying diminution of the depth of inspiration. If the irritation excitement becomes stronger or more prolonged the respiration is slowed with increasing exaggeration of the time and depth of the inspiration.

The same influence, which, transmitted by the pneumogastric nerve, affects the respiration in the maner above described, also reacts directly upon the heart which though increased in force is soon lessened in frequence by a moderate irritation of the cortex (ether). But a stronger irritation of this region stops the heart beat (the death of initial anesthesia by chloroform, *i.e.*, primary cardiac syncope).

Without wishing to deny the physiological fact of reflex irradiation from an irritated branch region to the production of a reflex pneumogastric arrest of the heart (the fatal naso-pharyngeal mucosa irritation attributed to chloroform) we can not refrain from pointing out the fact that primary cardiac syncope appears when all possibility of such irradiation reflex has been removed, (cocainization of the mucosa or section of the recurrent branch of the nerve), and we beg to insist upon the fact that the arrest of the heart is inevitably the physiological sequence of a strong irritation of the motor region of the cerebral cortex.

On account of the greater energy of intoxication possessed by chloroform in contra-distinction to the more moderate effect of ether, it is easy to conceive of a chloroform cortex irritation insufficiently strong (when the agent is administered in a too concentrated vapor) to provoke the direct physiological response to such a degree of cortical excitement, the immediate exertion of the pneumogastric function and its consequent cardiac syncope. While the lesser toxic

factor and energy of ether does not allow the possibility of its exhibition in sufficiently rapid or concentrated form to ever attain the necessary degree of *strong* cortical irritation which can and inevitably does produce the arrest of the heart, a full realization of these possibilities fixes indelibly upon the mind the peculiar necessity of minute doses and slow administration of chloroform until the first excitement stage of its anesthesia has been successfully passed.

This primary cardiac syncope is the great burden of responsibility under which the chloroform adherent must act. Little if any of this danger can be charged to ether.

The peculiar action of continued chloroformization in weakening disproportionately the auricular contractions of the heart, the resultant venous stasis, arterial ischemia and consequent paralysis of heart or respiration are so well described and verified in treatises of pharmacology that only a mention of these phenomena is needed here. Such description presents a most rational conception of the cardiac symptoms of secondary anesthesia, and sufficiently explains the danger of toxic doses or too long continued exhibition of chloroform.

It is very generally conceded that fatality of this order is avoidable by the skill of the anesthetizer and that the consideration of secondary syncope alone would leave the anesthetic in question decidedly less threatening than ether.

This latter agent, escaping the charge of exposing the organism to primary cardiac syncope offers, however, a tableau of progressive centrai depression with each stage and prolongation of its anesthesia. The heart and respiration in close coördination are diminished in frequence of action or volume of efficiency. The gradual loss of tissue function is evinced by their ischemia or cyanosis and the lowering body temperature. With the prolongation or depth of anesthesia, the continued depression becomes threatening and, more frequently than with chloroform, the progressive depression is not arrested by cessation of the exhibition of the drug, not even by energetic counterstimulation and the ultimate collapse of the organism is only kept from the list of ether fatality by its designation on the death-roll as *shock,* the prolongation of the period of increasing depression having permitted the removal of the victim from the scene of operation and possibly a survival of the narcosis period for several hours or days.

Thus progressive depression of ether with its final arrest of respiration is in all probability more frequent and inevitable than the secondary fatal accidents of chloroform. To ether also must be charged the numerous and often fatal complications induced by its specific irritation of the bronchial epithelium.

There is a growing consensus of opinion that if chloroform could be relieved from the accidents of primary syncope there would be little hesitation to admit its claim to be the master of anesthetics.

To accomplish this relief or find a more ideal agent of narcosis has become a most important object to the physiologist and surgeon.

To avoid the point of danger, the strong excitement of the cerebral cortex that accompanies the initial use of chloroform, English surgeons are employing nitrous oxide to induce the anesthesia which condition is then easily maintained with chloroform.

French physiologists have proposed to reduce the excitability of the motor-cortex by the preliminary drugging of the organism with atropo morphine, but the consequently inevitable coincidence of depressant effect of the atropine, morphine and the similar secondary action of either chloroform or ether narcosis, all of them acting as united depressants of the bulbar centers, can only be regarded with great suspicion of cumulative danger.

With the same object in view, to remove from the exhibition of chloroform its dangerous first stage, the strong cortical excitement, Dr. Hartman, Dr. Bourbon and the writer suggested and extensively used at Hôpital Bichat in Paris, since 1892, the remarkable agent of short narcosis, ethyl bromide. With this drug the initial anesthesia is rapidly induced without distress and can then be maintained with very minute doses of chloroform. For various reasons ethyl bromide appears to be particularly adapted for such purposes, relieving the initial danger factor of chloroform.

While the limits of our time prevent any special study of the physiological action of this last compound, we must stop long enough to point out, that by the ethyl radical, CH_3, CH_2, this bromide possesses all of the advantageous properties of anesthesia offered by ether, without the disturbance of mentality and slow induction which result from the contained oxygen of the latter molecule. And last, but of far-reaching importance, it must be remembered that ethyl bromide offers in every respect all of the particular pharmacological actions of the *bromides.* The same cerebral quiescence that is expected when alkaline bromides are exhibited is to be obtained with the same salt of the organic radical.

The possible consequences thereof strike us forcibly.

Here is the agent of anesthesia, ideal in its ease of administration, rapidity of action and perfectly safe for the induction of the unconscious stage which results without marked cortical excitement because of its suppression by the bromide quiescent action inherent to that drug, efficiently counteracting the influence of cortex-irritation otherwise to be expected by reason of its ethyl radical.

The extended use of ethyl bromide confirms more deeply this method of mixed anesthesia as fixed upon a sound physiological basis.

It must be said in passing, however, that the *absolute* necessity of a chemically pure compound is a reason for insistence upon a careful examination before use. So difficult is it to obtain a

perfectly pure ethyl bromide, that we, invariably, personally attend to its manufacture, if not able to know that the chemical has been freshly prepared for us by an expert chemist. The degree of skill which is essential for the preparation of this product in a state of purity to guarantee its physiological safety, is of such a high order that no preparation in this country would be considered safe unless personally prepared or guaranteed by a chemist of such marked ability as that of Dr. Kortright of the State University. Remember that chemists of sufficient ability in the organic field to be of value in a question of this class are exceedingly rare.

We repeat that *absolute* purity is the only condition by which ethyl bromide can be admitted as an agent of almost perfect safety for the induction of anesthesia. The dangers of its cumulative dose and consequent restriction to short narcosis have been previously explained.

For prolongation of unconsciousness, the narcosis induced by this bromide is easily and safely continued with chloroform in very small quantity. A teaspoonful of chloroform (in drop doses) is frequently all that is needed to continue the ethyl bromide induced anesthesia for the space of an hour.

The consideration of the molecular properties of anesthetics have so occupied our study that we cannot continue to encroach upon the time of this meeting to particularize the topic of analgesia, its uses in surgery, scope or limitations of application.

We can only remark that analgesia is apparently the property of all of the usual anesthetics. The wide range of "cortical or primary anesthesia," one of its methods of induction, attests that fact.

A new method of anesthesia, the spinal cocainization, awaits the consideration of the medical profession.

Of this, as well as of "cortical anesthesia," we hope to hear from others. If not, these two subjects must be laid over for consideration in a future paper.

LAGER BEER IN ACUTE VOMITING.

BY LOUIS KOLIPINSKI, M.D.,
OF WASHINGTON, D. C.

ACUTE vomiting is a severe symptom frequently encountered in abdominal and in female pelvic disease, in nervous disorders, and in acute general infections, with or without febrile reaction. To combat speedily and successfully this gastric derangement is the urgent duty of the medical attendant. A varied host of medicinal and dietetic remedies is at his command. Often, however, it is found necessary to alter one's mode of attack, often to withdraw in rapid succession various agents that fail. At times this symptom is so unmanageable that even a skilled and experienced clinician may meet defeat.

For these reasons, after long hesitation, but after a much longer trial of the remedy, the writer has concluded to call attention to the usefulness of lager beer in arresting obstinate vomiting. Its action is certain, intolerance rare. Its after-effects, as every one knows, are soporific. Attention was attracted to its virtue by the "craving desire for it" of some patients severely distressed with vomiting. Their request being complied with they expressed a feeling of great comfort and relief.

The beneficial effects are most marked in women and in those who are not habitual consumers of alcohol as a stimulant or intoxicant. Of the two varieties of beer—the pale and the dark—the latter is preferable. As to the quantity to be given, the amount need be but small, a bottle or two suffices. Singularly good results can be obtained from small doses. This is illustrated in the attacks of nausea, bilious vomiting, vertigo and sleeplessness, often a striking syndrome of epidemic influenza in women; a wineglass of beer, repeated in half an hour, will immediately soothe the disturbed organ and give a night of refreshing sleep.

The following shows its action in a case in which, all else unavailing, it cured.

A young man, twenty-five years of age, addicted to the cigarette habit and also a "graduate of the Keely cure," was seized at the end of a week's debauch of whisky, with bilious vomiting, insatiable thirst, abdominal soreness and pain. The stomach was intolerant of everything. The vomiting continued all day at intervals of ten or fifteen minutes. With the approach of night he was very much prostrated. The irritability of the stomach was increasing. He was given a glass of beer at 9 P.M.; water was withheld. The beer was repeated at intervals. He slept through the night. There was but one return of the vomiting and that at 2 A.M. The next day the patient had recovered.

As to the make of the beverage, the writer has no particular brew or brand to praise. In controlling vomiting he has not found any one's manufacture of especial value. In very severe and persistent vomiting, of four days' duration, caused by an inflammation of an ovary and Fallopian tube, immediate relief came after the patient had drunk the contents of three bottles of pale beer of inferior and adulterated composition.

CONSERVATIVE OPERATIONS UPON THE UTERINE ADNEXA.

BY HENRY T. BYFORD, M.D.,
OF CHICAGO.

IT IS very seldom necessary to remove the uterine adnexa for inflammatory disease. Although I believe that the sexual organs are of no benefit to their possessor, as far as promoting physical vigor or increasing longevity are concerned, there are many minor reasons for preserving them. I believe that after the age of thirty years these organs have already served

their function in stimulating individual development. After that age they are only of use to propagate the species, and, in functionating, act more or less as a drain upon the general system and tend to hasten senility. Yet women prefer, as a rule, to suffer with unhealthy organs rather than have them removed, and the prejudices of society are such that it is an unfortunate thing for a woman not to be able to retain them. I, therefore, consider it my duty to the individual patient to preserve sufficient ovarian tissue for normal function in women under forty years of age, even at the risk of their being obliged to undergo a subsequent castration.

There are three questions to be asked in determining what shall be done in a given case of disease of the adnexa that cannot be cured without opening the peritoneal cavity, *viz.*, (1) Shall we leave the ovaries and tubes intact and merely separate adhesions, replace the organs, etc? (2) Shall we remove the diseased portion of the ovaries and leave the best part of them, open up and clean out closed tubes, etc., and thus get rid of the diseased tissue without abolishing function? Or (3) shall we remove the diseased adnexa so completely as to bring on the menopause and prevent the monthly hyperemia?

There are undoubtedly cases in which the conditions require the complete abolishment of the monthly hyperemia of the sexual organs. Of these I will not speak. There are other cases in which separation of adhesions and suturing of the parts on a higher level may be all that is indicated. These I will also pass by. It is the second class of cases that I wish to consider, *viz.*, those in which the diseased portions of the ovary must be excised, the tubes made previous, and the patient left unaltered as far as her sexual functions are concerned.

Since peritoneal sections have become comparatively safe, it is not such a terrible misfortune if the patient should be obliged to submit to a second operation, and we are sometimes justified in recommending and performing conservative operations even when there is no certainty of a cure. We have also learned that purulent sactosalpinx is not a contra-indication to conservatism, for the pus in most cases has become sterile or is but feebly septic, and the communication of the tubes with peritoneal cavity and thus its usefulness as a transmitter of the ovum can be restored without danger or bad effects.

Severe septic cases of disease of the uterine appendages with habitual elevation of the body temperature, frequent acute attacks, large accumulation of pus, and complete disorganization of the tubal walls and ovarian structures should not as a rule be treated in a conservative manner.

Eliminating the septic cases just mentioned we have a very large majority left in which we can assure the patient that the diseased tissue can be removed or treated without interfering with her sexual functions or vigor. This I consider one of the chief advances made in modern gynecological surgery.

When there is for any good reason an objection to an abdominal incision, the same work can often be done by the vaginal route, although the abdominal operation more often gives good results.

The only argument which I care to advance in this short study is that we are doing such operations and that the immediate as well as remote results are good. Before abdominal sections were performed for adherent appendages, gynecologists recorded a large percentage of symptomatic cures without any operation, and now that we are operating in a conservative way we are likewise observing a large percentage of cures without complete removal. In other words, we are becoming more and more convinced that complete castration is to be reserved only for extreme cases.

I will only take up your time with two cases representative of many others which I am constantly performing. Dr. A. Palmer Dudley of New York has also reported a number of operations for pyosalpinx. It was his pioneer work that encouraged me to extend my conservative operations to adherent and occluded tubes.

I was called to see Miss H. in April, 1898, and found her in bed. She had been broken down in health for a year or more, and had taken local treatment and the rest cure without benefit. Her local symptoms were dysmenorrhea and pelvic pain. A consulting gynecologist of wide experience had recommended removal of the ovaries and uterus as the only means of getting her out of her deplorable condition. I found double oophoritis, a small cervix and moderate uterine hyperplasia. I dilated the cervix, curetted the uterus, made a peritoneal incision through the posterior vaginal fornix, and removed about two-thirds of each ovary, leaving only what seemed to be healthy tissue. The patient recovered promptly, married in a year, and has been well and hearty since.

In another case, that of Mrs. J. S. S., on February 15, 1901, I did an abdominal section and found both tubes occluded. The right tube contained cheesy matter and its walls were thickened and hardened from interstitial inflammation. The left tube contained a little turbid mucus. The left ovary contained a hematoma the size of a walnut. The appendages of both sides were extensively adherent. I separated the adhesions, removed a large part of the right ovary, opened the fimbriated extremity of both tubes by incisions, and sutured the mucous to the peritoneal coat in order to insure permanent patency. The contents of the tubes were pressed out, and the cavities syringed with sterile water. The peritoneal cavity was closed without drainage. The patient walked about the room at the end of three weeks. Her immediate recovery was about as rapid and complete as in those cases in which the ovaries and tubes are removed *in toto*, she continues well, and complains of no symptoms whatever.

100 State Street,

ACUTE EDEMA OF THE UVULA, PALATE, PHARYNX AND EPIGLOTTIS, FOLLOWING THE EXCESSIVE APPLICATION OF ADRENAL SOLUTION PRESERVED WITH CHLORETONE.[1]

BY SOLOMON SOLIS COHEN, M.D.,
OF PHILADELPHIA.

THE folowing report of an isolated observation may be of interest in view of the wide and increasing use of the various preparations of the adrenal gland, which, as one of the pioneers in these therapeutic applications, I have employed freely and do employ freely with the confidence born of repeated demonstration.

Rev. Father X. has been under my care for a number of years for recurring attacks of asthma. The patient is stout and plethoric, although active mentally and physically. In addition to asthma he was troubled with hoarseness and, at times, difficulty in phonation. When first seen, examination of the heart revealed no structural change, but somewhat feeble action; examination of the lungs elicited the usual phenomena of spasmodic asthma; examination of the nose disclosed no significant abnormity of structure, but considerable general congestion and slight turgescence of the middle and lower turbinates. Examination of the larynx showed thyro-arytenoid paresis of slight degree, and what, at first sight, appeared to be two papillomata symmetrically located on the two vocal bands posteriorly at their insertions into the arytenoids. The larynx was congested throughout. Spraying with adrenal solution, made extemporaneously, reduced the congestion, and it was seen that the apparent papillomata were simply circumscribed, boggy relaxations of the mucous membrane. These retained their pink color, though the hue was of lessened intensity, The diagnosis was confirmed by Dr. J. Solis Cohen, who, later, saw the patient in consultation. Under treatment, which included appropriate general medication, the application of astringent solutions locally, faradic applications over the larynx externally, and the use of adrenal extract internally, the patient improved rapidly. Recurrences of asthmatic paroxysms became less and less frequent, the voice became stronger and clearer, complete approximation of the vocal bands was made, the protuberances having become much smaller and the right passing under the left in phonation. The patient, who had been working very hard, establishing a new school in his parish, in addition to his ordinary priestly duties, was advised to take a long vacation. He made a winter cruise to the Mediterranean regions, returning thoroughly well, except for the condition of his larynx. He was then placed under the care of a teacher of vocal exercise, and continued to improve in all respects except that after prolonged use of the voice in church services or upon pastoral visitations, and occasionally after exposure to cold and wet, the larynx would become intensely congested, and asthmatoid symptoms would recur, though not with such severity as to warrant calling them attacks of asthma. In order to ward off such recurrences, the patient was given a solution of adrenal substance in glycerin and water, prepared by Mr. F. E. Morgan, the well-known pharmacist of Philadelphia, and instructed to use it as a spray, more or less constantly, preceding the spray of zinc sulphocarbolate in rosewater that he was using twice daily; which he did with good results. When Messrs. Parke, Davis & Company placed upon the market their solution of suprarenal substance preserved with chloretone, this was substituted for the glycerin extract formerly used. One night I was called in haste, being told that Father X. had a very severe attack of asthma and could scarcely get his breath. The appearance of the patient was different from that presented in ordinary attacks. The face was very much flushed, but dusky; the breathing was evidently painful, and there were slight inspiratory stridor; asthmatic râles were not evident, though the stridor made in the larynx was heard over the chest. Upon examination the uvula was seen to be swollen to about three times its ordinary size, evidently much distended with fluid. In color it was nearly white. The palate and half arches and a portion of the posterior wall of the pharynx were likewise markedly edematous, and there was slight edema of the epiglottis. The interior of the larynx, fortunately was clear. The patient stated that he had gone through a period of very great use of the voice, that his throat had begun to feel uncomfortable, that he had sprayed the pharynx and nasopharynx very vigorously and for a prolonged period, possibly three or five minutes, with the suprarenal-chloretone solution. No effect upon the heart seemed to have been caused by the application. The uvula and palate were scarified in several places, but little fluid exuded, and scarcely a drop of blood. It was not deemed necessary to scarify the epiglottis. The patient was advised to keep at rest, a drastic purge was given, and gargling with lukewarm water, aromatized with toilet vinegar, was advised. In about an hour, whether spontaneously or otherwise, the edema began to subside sufficiently to permit of greater ease in breathing; if, indeed, the visible edema was the direct cause of the difficulty, and not merely an indication of a general condition of the respiratory mucous membrane which subsided with it. In about an hour more the patient was feeling very comfortable, and I felt warranted in leaving him. Traces of the edema of the uvula were visible for three or four days.

While I am of the opinion that the condition described was due to the effect upon the blood-vessels of an overdose of suprarenal solution, and possibly to the concomitant influence of the chloretone, I have not felt justified in making any experiments to determine the point. The patient was instructed to go back to his old preparation, and to use it with moderation, since which time no further bad symptoms have occurred. The

[1] Read by title before the American Laryngological Association.

solution to which I have referred is not that of adrenalin chloride now available, but the extract of suprarenal substance with chloretone which was previously placed upon the market. I have used the adrenalin chloride solution as prepared with much satisfaction in the treatment of hay-fever and other relaxing conditions, in various strengths, from 1-1,000 to 1-5,000, and have not observed any ill-effect either from this or from the chloretone accompanying it.

MEDICAL PROGRESS.

Proteolytic Action of Bacteria.—This subject is of interest from the standpoint of the relation of intestinal bacteria to the digestion of albuminoids. Much experimental work has been done in this direction, the most recent coming from Ernst Cacace (*Ctlblt. f. Bak.*, Aug. 26, 1901). He has investigated the proteolytic action of the sarcina aurantiaca, bacillus anthracis and staphylococcus pyogenes aureus. He cultivated these on a 10-per-cent. aqueous solution of gelatin and also on coagulated cow blood-serum. He employed for the inoculation of these media pure agar cultures of these organisms in large amount. In such inoculated blood-sera he found proto-albumins and deutero-albumins in large quantities and also traces of peptone. In the gelatin growths there were present proto- and deutero-gelatins with traces of gelatin peptone. He believes that proteolysis is a property of all living beings.

Foreign Bodies in the Nose and Ear.—The general practitioner is frequently called upon to remove foreign bodies from the nose and ear, and it is well known that unskilful management of such cases has probably caused more injury than the presence of the annoying bodies. P. Fridenberg (*Med. Rec.*, Sept. 21, 1901) deprecates the use of forcible syringing to remove bodies from the nose. Direct syringing of the obstructed passage through the anterior nares or, better still, through the pharyngeal opening by means of a post-nasal syringe is much safer and better. Drawing a tampon of moistened gauze through the nasal cavity, according to Sajou's method, is frequently successful. Direct extraction by instrumental efforts must then be tried and a strong bent probe, a hook or wire loop or a blunt curette may be passed between the nasal wall and the foreign body. It may be necessary to push it back into the nasopharynx, but care must be taken that it does not enter the larynx. The forceps or galvanocautery may be used to diminish its size and in some cases of rhinoliths chemical agents may be employed. Insects and maggots are best treated by chloroform injections, pure or in mixture. Foreign bodies of the ear seldom necessitate immediate removal and no hurried unskilful operation should be attempted. In most cases repeated syringing with a warm boric-acid solution to which lysol or soap has been added is successful. A large perforation is practically the only contra-indication to syringing. Instrumental removal should be done only with the greatest care.

Idiopathic Dropsy.—Although this condition is mentioned in a good many textbooks on medicine, it seems not yet to have been given the consideration which its gravity and frequency warrant. W. P. Herringham (*Brit. Med. Jour.*, Sept. 7, 1901), after carefully reviewing the histories of the few recorded cases, concludes by asking and answering the three following questions: (1) Is the disease really nephritis? (2) Is it in any case entirely dependent upon anemia? (3) Is it a condition distinct from either? (1) Both symptomatically and etiologically the disease closely resembles nephritis. Moreover, in not a few cases of post-scarlatinal nephritis, in which the urine was free from albumin, the necropsy showed well-developed kidney disease. This, however, is not true in every case and it is now generally admitted that a considerable number of children who die with every evidence of nephritis following scarlatina carry a good pair of kidneys with them to the grave. (2) It is absurd to suppose that anemia can develop to a sufficient degree to cause dropsy in the case of healthy men who sometimes suddenly develop this symptom ofter a wetting. Furthermore in a considerable number of cases of dropsy there is no anemia. (3) Even supposing that all cases of dropsy could be explained by anemia, or nephritis, or cardiac lesion, we are very much in the dark as to the ultimate cause. No one has ever seen the damage done to the endothelial cells, nor has the hypothetical toxin as yet been separated. It seems reasonable that there is some as yet undiscovered ulterior cause which produces the three symptoms, nephritis, anemia and edema, the latter being coincident with, not consequent upon, the first two.

Disadvantages of Copper Sulphates in Diseases of the Eye.—In a recent article in the *Medical Record* Dr. Claiborne extols the use of copper sulphate in many chronic inflammatory conditions of the conjunctivæ, especially trachoma. C. Williams (*Med. Rec.*, Sept. 21, 1901) takes exception to the conclusions which were there reached and characterizes the use of that remedy as a relic of barbarism. He says that there is nothing which it can accomplish which can not be done with infinitely less pain and in a much shorter time, by other means. He cites numerous examples where prolonged use of copper has been unavailing, although always extremely painful and frequently causing corneal ulcers or even a serious iritis. He believes that trachoma is most successfully treated with weak solutions of silver nitrate together with frequent irrigations with bichloride solution in normal salt. No application to inflamed conjunctivæ causing pain of lasting duration should be countenanced. Expression is not absolutely essential, yet much hastens the cure of trachoma. The most difficult part in the cure of trachoma is the finishing and this can best be accomplished by a solution of tannic and boric acid in glycerin and water. When it is desired to stimulate the cornea to increase

tissue changes, alcohol may be added. No staining from silver solutions has been seen even when their use was kept up for a long time.

Use of Tuberculin.—In 1890 the world was surprised by the report from that eminent authority, Robert Koch, that he had obtained a specific cure for tuberculosis in the form of the so-called tuberculin. The universal thankfulness was soon dispelled by the opposition which was developed and lead by Virchow. Since then the use of tuberculin in the treatment of cases of tuberculosis has been very limited and its practical application in this country has been, in general, restricted to diagnostic purposes. G. A. HERON (*Phil. Med. Jour.,* Sept. 21, 1901) believes that much injustice has been done in condemning the general use of tuberculin and, after considerable experience and many successful results, expresses the opinion that it has fallen into disrepute (1) on account of its frequent use in unsuitable cases; (2) by its administration in too large doses: (3) by neglect of the rule that it should never be given until the patient's temperature has been normal for the previous twenty-four hours, at least; (4) by neglect of the rule that the dose should gradually be decreased instead of increased when its use is followed by a rise of temperature. It is never to be recommended in any case of severe involvement by consolidation or where there is any excavation. Its use in selected cases is still highly recommended and as an assistant in diagnosing early cases it is certainly invaluable.

Tuberculosis in Infancy.—Cases of tuberculosis during the first six months of life are very rare, but are common toward the end of the first and during the second year, according to D. DIEUDONNE (*Münch. med. Woch.,* Sept. 10. 1901). This may be easily explained by the fact that the children then begin to expose themselves to infected dust by crawling about the floor, that skin lesions such as herpes, impetigo and eczema are frequent and form a ready portal of entry, and that the nasal and oral secretions are abundant, incident to dentition, and form a ready means of retaining the germs. Small sterile sponges were rubbed over the hands of suitable cases and also allowed to imbibe their nasal secretion and cultures then made, with the result that 5 out of 88 showed the tubercle bacillus. The importance of guarding children, especially those of tuberculous parents, against such infection, is emphasized.

Heart in Caisson Disease.—A number of perfectly healthy caisson workers were examined by B. HORNUNG (*Münch. med. Woch*, Sept. 10, 1901) to see if the increased atmosphere caused any change in the size of the heart. Increased cardiac dulness in all directions was found in most, the greatest increase being toward the right. When the atmospheric pressure was increased suddenly, instead of gradually, the same facts were noted, but in a few cases the dilatation was still more marked. In all, normal heart limits were found after sixteen hours. The author thinks it possible that the labyrinthine symptoms of caisson disease are due to the circulatory changes and not to increased pressure on the labyrinth.

Membranous Dysmenorrhea. — Concerning membranous dysmenorrhea, D. KOLLMANN (*Münch. med. Woch.,* Sept. 10, 1901) sets up the following rules: (1) There is no connection with pregnancy and abortion and sterility is not necessarily the result, nor is there any relation to inflammation of the mucosa of the uterus; (2) the membranes are a manifestation of the necrosis caused by hemorrhage and exudation into the tissue; (3) the cause of the pain is not to be found in the tearing off of the membranes; (4) the anatomical picture does not correspond to any definite type and can vary with the same patient; (5) the condition is frequent and often overlooked.

Intestinal Disinfection.—For the estimation of the degree of bacterial activity going on in the intestines, three methods are available, namely, the quantitative determination of ether sulph-acids and indican, the bacteriological investigation of the feces and determining the toxicity of the feces by Bouchard's method. The first method has the disadvantage that many supposed antiseptics introduced into the gut are changed into simular bodies, thus making an investigation of their activity an impossibility; the second method gives results varying within too wide limits to be practicable, and the last is difficult, because the actual toxic products have not as yet been isolated. H. SINGER (*Therap. Monatshft.,* Sept., 1901) recapitulates the various so-called intestinal antiseptics that have been recommended, from calomel up to the many new drugs, and shows how none have fulfilled the expectations that were placed in them. Even high irrigations of the intestines are inefficient and open up the danger of intoxication from the antiseptics added to the water.

Determination of Blood.—To ascertain the presence of blood, especially in feces, C. STRZYZOWSKI (*Therap. Monatshft.,* Sept., 1901) recommends that one drop of 1:500 sodium iodide be added to the particle, and that, after the addition of concentrated acetic acid, the slide be boiled for from three to six seconds. There will result deeply-stained egg-shaped, biconvex crystals which can readily be recognized. Instead of the iodide, hydriodic acid may be used, and, with feces, it may be necessary to remove the fat with equal parts of chloroform and ether. If the above method gives a negative result, resort must be had to the spectroscope and the ozone reaction. The author has made various experiments to determine how high blood may be heated before the various reactions disappear. He has found that above 190° C. hemin crystals no longer form with the method above described, and that even at this temperature the crystals are often atypical, in the form of needles or balls. At 210 to 220° C. the spectroscopic and the chemical determination with tincture of guaiac and old oil of turpentine no longer are possible.

Mosquitoes and Their Properties.—An interesting article on mosquitoes as they occur around New Orleans has been written by H. A. Veazie (*New Orleans Med. and Surg. Jour.*, Sept., 1901). After a few general remarks on the general technic of catching the insect with short wide-mouthed test-tubes, keeping them for study in large bottles with sugar and water, killing them with chloroform, preserving the specimen from moths in wooden cigar-boxes, and examining them under the microscope in the ordinary dry cell, the author goes into a detailed anatomical description, pointing out especially the well-developed sharp epipharynx or stinging apparatus of the female and its more blunt counterpart in the male. The two most common genera found are the *Anopheles* and the *Culex*, and of both there are many subdivisions. The position which the different genera take while resting is usually distinctive, as the *Anopheles* usually rests with its body very nearly at right angles to the surface, while the body of the *Culex* and others is more parallel. The *Anopheles* also is quite awkward on alighting, whereas the *Culex* seems to have less trouble in coming to rest. All mosquitoes come from an egg which hatches and forms the larvæ; this changes into the pupa and from this the imago or mature form of the insect develops, the moult skin being used as a float until the wings and other parts have time to unfold, dry and adjust themselves to a new existence, so that water is an absolute necessity for their development. The most common breeding-places are the gutters, drainage-canals, water-closets and cisterns; very few, if any, come from our rivers and lakes on account of the wave, winds or depth of water and myriads of fish which feed upon them, among which minnows are especially prominent. In considering prevention and remedies, all efforts to get rid of mosquitoes should begin about April 1st. The gutters should be kept either dry or with running water, but never stagnant, for the female cannot well alight on running water to oviposit; the cisterns should be covered with fine galvanized iron wire gauze, which is better than oil, and the water-closets should be treated once a month with an ounce or two of petroleum. Where stagnation is unavoidable, coal oil should be freely poured on the surface.

A New Gynecological Speculum.—A self-retaining speculum, which renders emergency operations possible without the aid of assistants, is described by A. Garioni (*Centralblatt f. Gyn.*, 1901, No. 36). Its parts are all detachable, so that its aseptic properties are up to the highest standards. It most resembles Collin's speculum, but has shorter blades. The essential parts of this instrument are as follows: (1) Two short, medium wide blades, spreading in the transverse diameter of the vagina, with a wide flaring shoulder on each, which, when the instrument is introduced, lie on the vulva and buttock; (2) a horizontal crosspiece, fastened to the upper edge of each blade at the angle where the flaring shoulder turns outward, on the left blade by a pivoted separable hinge joint, on the right blade by a slot where a thumb screw works which opens the blades in parallel position; (3) a screw and thumb-nut attached to the left blade, which separate the tips of the blades in the usual manner in the vault of the vagina; (4) a pair of volcellum forceps, with scissor handles bent on the flat at right angles to the axis of the jaws, so that the handles are upon the buttock of the patient entirely out of the field of treatment; the upper jaw of the volcellum forceps is provided with a large number of pivots which serve to catch the instrument and to maintain the cervix uteri drawn toward the vulva, in degree varying with each case; (5) a retaining catch to receive these pivots on the volcellum forceps fastened to the horizontal crosspiece; (6) a douche nozzle which may be attached to the volcellum. The application of the instrument is as follows: Introduction of the blades up to their shoulders, parallel separation of them until they are at or near the tuberosities of the ischii, angular separation of their tips in the vault of the vagina, seizure and forward traction of the cervix uteri with volcellum, adjustment of the same on the catch, attachment of the douche nozzle if desired, for operating or treating under continuous current. Hence without ever troubling a second party to hold instruments, any ordinary gynecological procedure can be done by one person and yet all the necessary and usual advantages of an assistant are present.

Congenital Macrodactylia.—According to some writers congenital macrodactylia is a purely teratological condition. In the opinion of Boinet (*La Presse Méd.*, Sept. 4, 1901) it may with at least equal propriety be regarded as pathological, inasmuch as it is characterized by a progressive growth, ordinarily more rapid than that of the remaining normal fingers, and exceptionally rapid during adolescence. Macrodactylia is rarely hereditary. It is more frequent in males than in females. In many instances there is no accompanying anomaly of the skin; secretion and sensation remain normal. Radiography has shown in some instances bony hypertrophy without osteophytes; in other cases osteophytes were present, with rarefying osteitis. The pathogenesis of macrodactylia has not yet been clearly elucidated.

Gold Wire in Herniotomy.—One hundred and twenty consecutive primary-union herniotomies, in which buried gold-wire was the suture used, are reported by G. de Francisco (*Centralbl. f. Chir.*, 1901, 36) for J. Tansim. In addition he has devised and for years satisfactorily used self-retaining and self-acting retractors for the muscles and an elevator or hook for the cord. A long-handled spatula serves to press the deep structures out of the way during the sewing. The plan of the instruments is briefly considerable weight for their retention and traction and a generous depth for their hold on the tissue. They obviate handling the wound, preserve asepsis and tend to promote primary union.

Radical Cure of Cystocele by Temporary Suspension of Bladder.—This operation was practised on a woman, aged sixty-three years, who had a cystocele the size of a large orange protruding from the vulva. This condition had existed for six years; during most of this time relief could be obtained only by having the patient remain in a recumbent position. In performing the operation, dissection was begun anterior to the cervix uteri, as for hysterectomy. The peritoneum was stripped from the bladder with the finger and blunt instruments. The wound was packed with gauze. The abdomen was then opened in the lunea alba for a distance of five inches immediately above the symphisis pubis. The bladder, distended with sterile water, was grasped with dull forceps and drawn forward. Sutures were passed through the muscular coat of the bladder on either side of median line for a distance of 1½ inches, three-quarters of an inch from the median line and parallel; the ends were held outside the wound. The outer coat was next denuded in median line between the sutures, when by means of a semi-curved ligature carrier the free ends were carried through the abdominal wall, their exit made to correspond with the position of exit from the bladder, and the ends secured by locked forceps dropped to sides of abdomen. The wound was closed by subcutaneous continued suture. The free ends of the suspension sutures were drawn taut and fastened over rolled bolsters of sterile gauze. The patient was then placed in Sim's position and the gauze packing from the vaginal wound were removed. The abraded surfaces of peritoneum were approximated by catgut, and colporrhaphy followed. A narrow opening was left for drainage of the space in front of the bladder. On the thirtieth day the silkworm gut ligatures were loosened and withdrawn and the patient was discharged the fortieth day. J. B. TAULBEE (*Amer. Gyn. and Obstet. Jour.*, Sept., 1901) states that the most difficult features of the operation are in properly divesting the bladder of its peritoneal covering and re-approximating the same, and properly inserting ligatures and denuding the area which is to adhere to the pelvic or abdominal fascia. Priority for the operation is claimed.

The Blood in Surgical Diagnosis.—The results of extended collaboration in this field and the following summary are given by R. C. CABOT, J. B. BLAKE and J. C. HUBBARD (*Annals of Surgery*, Sept., 1901). (1) At the end of complete anesthesia there is occasionally a slight, rarely a marked leucocytosis; (2) at the end of the operation there is a considerable leucocytosis in one-half the cases, and almost always a distinct increase over the number found at the end of complete anesthesia; (3) the blood at the end of operations for malignant growths is not necessarily much impoverished and in favorable cases usually recuperates rapidly; (4) hourly variations in the white-cell count may occur in conditions other than the preperforative stage of typhoid fever and may be present in health too; (6) very violent physical exertion produces conditions in the blood which pass the normal and may be identical with that found in disease. This last conclusion is derived from a study of the blood of the runners at Marathon in the recent Greek games by R. C. Larrabee.

Plantar Reflex and Babinski's Sign.—Babinski was the first to record the pathological alteration in the plantar reflex, whereby in certain cases mild irritation of the sole of the foot produces not plantar flexion, but dorsal flexion of the toes, and especially of the great toe. The cause assigned by Babinski for this alteration of the plantar reflex is in almost every case some lesion of the pyramidal tract; recognized exceptions are epilepsy, strychnine-poisoning and other diseases producing exaltation of reflexes, and normal infancy. H. SCHNEIDER (*Berl. klin. Woch.*, Sept. 16, 1901) took advantage of the opportunity to record the Babinski phenomenon in nearly a hundred cases of disease of the central nervous system. He states that this phenomenon may be caused in two ways; first, by interruption of the pyramidal tract or disease of the motor cortical area, thus destroying the normal plantar flexion, which is a cortical reflex; second, by diseases which either increase the irritability of the motor cells of the spinal cord, or diminish the irritability of the cerebral cortex. Briefly stated, Babinski's phenomenon is the substitution of a spinal for a cortical reflex. It is due to the relative suppression of the cortical reflex, a phenomenon which may or may not involve distinction of cortical centers, and which may or may not point to a lesion of the pyramidal tract. In conditions producing general heightening of spinal reflexes a diagnosis of pyramidal lesion cannot be based on Babinski's sign.

Tubal Gestation Sac Anterior to the Uterus.—A surgical curiosity which is doubly interesting because fully diagnosed before the operation is reported by A. H. G. DORAN (*Lancet*, Sept. 14, 1901). It consisted in a tubal gestation in which the sac lay anterior to a retroverted and flexed uterus and had adherent to it an inflamed appendix. This is certainly a rare combination, but his report serves to remind us that diagnosis must always have reference to complicated conditions.

Comparative Virulence of the Tubercle Bacillus from Human and Bovine Sources.—The relation between the various types of the tubercle bacillus found in man and in the lower animals has been the subject of much discussion for several years past. A careful study of the comparative virulence of the organism from human and bovine sources has been made by M. P. RAVENEL (*Univ. of Penn. Med. Bull.*, Sept., 1901). He finds that cultures from these two sources differ markedly in pathogenic power, the bovine bacillus being more active than the human for all species of experimental animals with the possible exception of swine, which are highly susceptible to both. Tuberculous material from cattle and from man corresponds closely in comparative pathogenic power to pure cultures of tubercle bacillus

from the two sources. The author regards it as a fair assumption from the evidence at hand that the bovine tubercle bacillus has a high degree of pathogenic power for man also, which is especially manifest in the early years of life.

Fracture of the Skull.—This subject is discussed by W. Lathrop (*Annals of Surgery*, Sept., 1901) from the standpoint of the advantages of early operation, even in doubtful cases. Such beneficent and often life-saving procedures are possible only to modern asepsis and antisepsis. Every comatose case brought into a hospital may be suffering from apoplexy, concussion or contusion of the brain and uremia. The last condition is ruled out at once if urine is drawn by catheter and found to be negative. The other three are differentiated only by their degree and subsequent course. In doubtful cases where there is history of injury to the head, with persisting or increasing symptoms, it is always advisable to operate at the seat of the traumatism. When the inner table is much comminuted, the dura usually suffers and the brain beneath it. Sometimes, however, the dura shows rare resisting powers, although the brain beneath it may be badly torn and bleeding. In such cases an unusual elasticity or tension of the dura appears as soon as the outer surface of it and the wound area are cleaned up. The very great weight of certain symptoms can not be overstated and consequently the surgeon should always be alert to detect their primary presence and their later development and progress. In general such are the signs of the local brain injury. The prognosis is good when the operation is done early and the fracture or hemorrhage has in general not damaged more than the surface of the brain. Subnormal temperature followed by a rapid rise, persistent coma, paralysis, deep and irregular breathing, pupillary dilatation are nearly always of fatal significance. A temperature at or above normal, rising one or two degrees with regular respiration and full and slightly accelerated pulse are usually favorable features.

The Use of Raw Milk in Enteritis and Athrepsia.—In the process of sterilization of milk, casein loses the property of coagulation, nuclein and lecithin become insoluble, lactose is completely changed and the fat collects in droplets on the surface. While many authors believe that the digestibility of milk so altered is not diminished, this supposition is not borne out by the clinical experience of Jensen, Von Starck, Heubner and others. S. Monrad (*La Presse Méd.*, Sept. 4, 1901), after treating five infants unsuccessfully with sterilized milk, was led to substitute raw milk. The result was rapid and excellent; vomiting ceased, the bowels became regular, the patients regained weight which they had previously lost. The author, however, does not recommend the unqualified suppression of sterilized milk, but advises the substitution of raw milk in cases where infants prove intolerant of the sterilized variety and suffer from intestinal catarrh and athrepsia.

Blood Changes After Antityphoid Inoculation.—These changes are summarized and their bearing explained upon the all-important subject of serumtherapy in general by A. E. Wright (*Lancet*, Sept. 14, 1901). (1) When the quantum of antityphoid vaccine employed is so great that it produces the well-known and intense systemic symptoms, the inoculation will be followed by a period of decreased bactericidal properties in the blood and consequently by an increased susceptibility to typhoid infection over the same period. Upon this negative phrase there may be expected to succeed after a lapse of about three weeks a positive phase of increased bactericidal power and augmented resistance to typhoid infection. (2) When the quantum of antityphoid serum produces a series of still more intense constitutional reaction, it may be succeeded by a negative condition of the blood, which may persist indefinitely or never be followed by a positive phase. This same phenomenon has been observed in patients who go through a severe degree of typhoid fever. (3) When the quantum of antityphoid serum employed is such that no severe degree of systemic effect is produced, the injection may be expected to produce a positive bactericidal phase at once, with no preliminary negative phase, and sometimes as promptly as within twenty-four hours. From the vastly important premises he deduces these conclusions: (1) Inoculations producing the highest degree of general effect are at all times not advisable and in the presence of a typhoid epidemic would be a certain source of danger; (2) inoculations producing a marked but not an extreme reaction are in the same way not advised in the presence of an epidemic. When, however, several weeks are to elapse before known exposure to the disease shall occur or when a second inoculation can not be carried out, then they should be always resorted to. (3) Inoculations which do not produce any or only a slight systemic reaction are those whose employment is most appropriate at all times, when their repetition is possible, and particularly during the rage of a typhoid visitation. These three principles are in accord with the observations of Ehrlich in the action of tetanus antitoxin in goats and of Haffkine in the antiplague inoculations. It is probable that they underlie the correct method of all immunization with serums and antitoxins. (4) When, after a recovery from enteric fever, a patient's blood is found too deficient in bactericidal power, it is advisable, especially in the presence of a continuing typhoid epidemic, to raise the standard of blood-resistance by appropriate inoculations. (5) On the other hand with high or very great blood-resistance after a recovery it is not necessary to inoculate, with the hope of raising a bactericidal power already up to the standard. (6) The efficacy of any antityphoid vaccine, as the result of age or method of storing and preparation, is a question which can be decided only by an inoculation with it, followed by an observation of the actual bactericidal power present in the blood.

Cause of Osteomalacia.—Since this rare disease occurs more frequently in women during pregnancy and especiallly in the poorer and ill-fed classes, J. G. DRENNAN (*N. Y. Med. Jour.*, Sept. 28, 1901) suggests that perhaps this disease of decalcification is due to the abstraction of calcium salts from the mother's blood by the fetus. It is not probable that the fetus abstracts nourishment from the tissues of the mother, but indirectly from the pabulum which she requires to rebuild her own tissues. Osteomalacia then would be the result of a poverty of calcium salts in the blood of the mother, by which her osseous system is starved by the fetus assimilating all the available salts.

Pernicious Anemia in Infants.—In citing one of these rare cases of a child, aged nine months, T. M. ROTCH and M. LADD (*Archives of Pediatrics*, Sept., 1901) emphasize the following points: The insidious onset with moderate and paroxysmal attacks of indigestion, the extreme pallor, great loss of strength, slightly elevated temperature for months and absence of glandular or splenic enlargement or of any demonstrable cause for a secondary anemia. The blood showed the typical characteristics of pernicious anemia, with not much leucocytosis. Under treatment with oxygen, the saccharated carbonate of iron, ferration, etc., the blood and general symptoms improved until the infant appeared in all respects sound and healthy. This child has been put on artificial food at four and a half months. In making a diagnosis of pernicious anemia in infants, signs which are almost pathognomonic in adults lose significance, on account of the greater instability of the infant's blood-making function. Megaloblasts, normablasts, macrocytes and poikilocytes may occur in grave anemias other than "pernicious"; still, these elements are needed for diagnosis. In the treatment, feeding is of first importance, and arsenic if tolerated, and iron in the form of ferration or a similar preparation may be of benefit. In this case the oxygen inhalations seemed to give prompt improvement.

Hereditary Chorea.—Three cases, each showing well the hereditary character of the disease, the insidious onset, and the late mental impairment, are reported by C. E. RIGGS (*Jour. of Nervous and Mental Disease*, Sept., 1901). Mental stress or shock preceded the onset in two of the victims, who were women. One of these showed marked incoördination of gait if at all fatigued. Both were very untidy in dress, were mentally sluggish, and showed Romberg's symptom and exaggerated deep reflexes, speech, respiration, and arm-movements were jerky in all the cases.

THERAPEUTIC HINTS.

Overextension in Pott's Disease.—Continuous, gradually-increased overextension of the spine is, according to ROYAL WHITMAN (*Pediatrics*, Sept. 1, 1901), a most effective treatment, and at the same time one quite at the command of the general practitioner. The vertebral bodies do not grow again, but the pressure and friction which stimulate the destructive process is removed. The method is especially applicable to children under three years, as these can be kept in the recumbent position. The apparatus is a rectangular frame of gas-pipe, rather longer and narrower than the patient, and covered with tightly-drawn cotton sheeting except for a six-inch interval at the center. Thick pads of felt are sewn so as to support the body at each side of the kyphotic area. As soon as the patient has become accustomed to the restraint, the bars are from time to time bent upward beneath the kyphosis with the aim of separating the diseased vertebral bodies and obliterating the normal curves of the spine. The child's clothes are made to fit over all, and the arms and legs need no restraint. Once a day the child is removed, is carefully turned face downward upon a large pillow, and the back inspected and powdered.

For Asthma.—

℞ Decotum senegæ .....120.0 (℥iv)
Tinct. lobeliæ
Tinct. opii camph. aa..... 30.0 (℥i)
Potass. iodid ..... 10.0 (ʒiiss)
—*Le Progrès Médical.*

For Chilblains.—

℞ Liq. plumbi subacet..... 8.0 (ʒij)
Bism. subnit..... 6.0 (ʒiss)
Vaselin
Lanolin .....aa 12.0 (ʒiij)
—*Le Progrès Médical.*

Cooked or Raw Meat in Tuberculosis.—Following the diverse statements regarding the relative merits of raw or cooked meat, CORNIL and CHANTMESSE (*Gazette Médicale de Paris*, Aug. 31, 1901) inoculated numerous dogs with the tubercle bacillus. Then the dogs were separated into pairs, the two of a given pair being practically of equal weight and age. One of the animals of the pair was allowed to eat cooked meat to satiety, and the other given the same weight of raw meat. It was noticed that the meat lost about 20 per cent. of its weight in cooking. The dogs fed on cooked meat succumbed in from four weeks to five months, and the autopsy showed generalized tuberculous lesions with caseation, and very marked fatty degeneration of the liver. When a dog fed on cooked meat died, his companion fed on raw meat was killed, and in every case the latter animal was much better nourished, the fatty degeneration of the liver was less, and the tubercles were less numerous, of smaller size, and showed less caseation. One animal fed on raw meat preserved its vigor and healthful appearance at the end of a year, it having been spared though its companion fed on cooked meat had succumbed at five months. These experiments go to show that superalimentation is not the essential, but that raw meat possesses remedial qualities not found in cooked meat.

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OF MEDICAL SCIENCE.

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SATURDAY, OCTOBER 5, 1901.

LONGEVITY AND INSURANCE.

In spite of the brilliant analysis of Schopenhauer who so clearly demonstrated the inability of the ordinary man to distinguish pleasure from pain, there still exist occasional deluded mortals who cling with pathetic obstinacy to the ancient superstition that life is worth living. Such may find both interest and gratification in a brief review of the evidences of increasing human longevity which, in civilized communities at least, have formed one of the notable characteristics of the progress of the last century.

Of a general nature is the fact that famines and epidemics, which in times past sometimes decimated the populations of enormous areas, have steadily become more local and transient, so that now the threat of their recurrence excites only mild apprehension on the part of the public. Wars also, though unhappily still too common, are certainly less numerous and protracted than of yore, while the inevitable loss of life involved in their prosecution is being rapidly reduced to a minimum by the modern policy of screening noncombatants, so far as practicable, from the direct effects of military operations. Again, the annual slaughter of the innocents which, particularly in cities, attends the advent of every summer has been appreciably diminished through the media of intelligent legislation and practical charities. Admitting the significance and mutually corroborative nature of these circumstances, it is nevertheless evident that they fail to supply the requisite data for a numerical estimate of the prolongation of life.

Somewhat more definite results may be derived from a study of the reports of such statistical bureaus as keep reasonably accurate records. Even these figures, however, can be accepted only as more or less close approximations to the truth. The usual method of calculating the annual death-rate for a locality is easy of application and not without value, but it is at best a rough and ready device from the determinations of which deductions should be made with caution. The age constitutions of the populations of various places differ so considerably that in the comparison of two cities, such as Chicago and Vienna, for example, the story told by the conventional death-rates might easily be the reverse of true. Nevertheless, when in any particular locality, the population of which has not undergone abnormal fluctuations, the death-rate has manifested a declining tendency for a term of years, it is safe to assert that the average duration of life is increasing. These conditions are met in most of the cities of the civilized world, and it is fair to assume that in the country districts there has been a similar, though perhaps less decided, improvement.

The most important question concerning increased longevity, its distribution, remains to be considered. Is it largely confined to the extremes of life, especially the earlier, thus constituting a detriment rather than a benefit to society, or does it apply also to the productive ages? From general death-rates no answer is forthcoming. Although census statistics might be expected to solve this problem, they are unfortunately vitiated to an unknown extent by the great movements of immigration and emigration. There remains the graded mortality-table such as is used by actuaries in calculating premium-rates and which exhibits for the period to which it applies the death-rate at each age. It is obvious that two tables covering similar classes of people at different periods would show very accurately the distribution of the increased longevity already demonstrated. Two such tables now exist, thanks to the combined efforts of the British life companies, which long ago formulated their ex-

perience prior to 1863 and have recently completed a similar work for the thirty subsequent years. As was unavoidable in virtue of their origin, both tables ignore all ages below ten, at which they assume 100,000 males to be alive. Ten years later the survivors by the new table are 230 in excess of those by the old; after the lapse of twenty years, the excess is 2,077; after thirty, 3,183; after forty, 3,459; after fifty, 3,207; after sixty, 2,491; after seventy, 1,600. From these figures it is obvious that, in Great Britain at least, the prolongation of life has been characteristic of all ages except perhaps the very highest and the maximum increases chiefly affect the periods of greatest productivity. The consequent gain to society needs no demonstration. Although the tables just compared are compiled from the records of insured lives only, there is no reason to doubt that the same general causes that have so favorably affected them have been similarly operative on the rest of the community.

To the uninitiated it might seem probable that the adoption of the new table would imply cheaper insurance, but, unfortunately, such a belief would be a delusion. The cost of insurance depends on the mortality experience and business management of the company issuing the policy. Although the net premium is based on the standard table, it is usually heavily loaded for expense and various contingencies. If the company has a low death-rate and makes fortunate investments, it rapidly accumulates a surplus which may be distributed in the form of dividends to the policy holders, thus reducing the cost of their insurance. On the other hand, it may be dissipated in extravagance. In either case, it makes no difference to the insured what mortality-table is preferred by the actuaries. So far as one can judge at the present time, the hope of cheaper insurance through increased longevity is, to quote the words used by the late Senator Ingalls in another connection, merely an iridescent dream.

ENVIRONMENT AND INTESTINAL DISTURBANCE.

One of the prominent features of ordinary practice at this season is the marked tendency to the occurrence of intestinal disturbance, partly as the result of unexpected variations in the weather, partly as the result of modifications of environment incident to changes of residence after the summer.

We have learned to appreciate in recent years that intestinal digestion is much more important than gastric digestion. Complete removal of the stomach in recent surgical experience has not been followed by any serious interference with the general process of nutrition. The functional suppression of the stomach by gastro-enterostomy has been practised for several years, and not only with temporary, but permanent improvement of the health of the individual. Specialists in gastric disease assert that in not a few patients a condition of gastric anadenia, atrophy of the secretory glands of the stomach and consequent obliteration of the function of gastric digestion develop without necessarily causing any permanent impairment of the power to prepare and absorb sufficient food to support the system.

We are thus brought face to face with the fact that digestion is mainly an intestinal function. The active mucous membrane of the intestine is spread over a tube twenty-eight feet in length and is subject to many external and internal influences. One of the most important of these is adaptability to variations of temperature and of intestinal contents. This adaptability differs in degree in different persons. The intestine of each individual constantly contains a large number of micro-organisms to whose presence it has become tolerant. This microbic flora of the intestine varies very much under the varying conditions of human life. Micro-organisms that will prove not only harmless, but even beneficial for some because of certain fermentative processes adjuvant to digestion that they set up, will in others work harm by exciting irritative conditions. The intestinal flora depends not only on the actual bacteria introduced into the intestinal tract, but also upon the conditions that are maintained in it. Temperature and the form of nutritive medium are the two conditions that in the bacteriological laboratory are known most to influence microbic growth.

Slight variations of temperature may prove very important in their effects upon the multiplication of bacteria. A difference of a few degrees suffices to prevent the growth of such ordinarily virulent and active bacteria as the bacillus of anthrax or the gonococcus. Internal body temperature and notably that in the intestines is dependent on the blood-supply. This is particularly liable to variations, because the exigencies of digestion require them. Under ordinary conditions only the usual flora of the digestive tract flourish. If the surface of the body should become much cooler than normal the cutaneous capillaries, capable under ordinary condi-

tions of containing about one-fourth of the blood in the body, became contracted. The blood usually at the surface is forced to the interior of the body and finds its readiest refuge in the blood-vessels of the intestine which are easily distensible. The presence of so much blood leads to passive congestion and consequent sluggishness of the circulation. The first result of this is a lowering of the temperature of the intestines. This disturbs the equilibrium of bacterial life in the intestines.

It is well known that the growth of certain micro-organisms prevents the growth of others. The nitrifying bacteria that multiply on the surface of filter beds are the best example of this. By their presence they prevent the multiplication of pathogenic germs. When the ordinary vital conditions of the normal microbic flora of the intestines are disturbed, micro-organisms to whose irritative properties the intestines are not accustomed find a favorable opportunity to grow. Hence the intestinal disturbances that occur so frequently in variable temperatures. This is the scientific significance of the popular term "cold in the bowels."

As the disturbance of temperature conditions upsets intestinal microbic equilibrium, so also does serious interference with ordinary food conditions. Marked change in the diet, the consumption of unusual articles of food, the drinking of unaccustomed water, introduce new organisms and disturb the relations of the old to one another and to the vital resistance of the intestinal mucous cells. Practically this pathological tendency is best illustrated by what happens almost invariably in camps and for most people during the first few days at a watering place. Diarrheic conditions are almost the rule under these circumstances. Custom has established a tolerance of conditions that a change of environment makes ineffective. The treatment of the resultant intestinal disturbance must be directed to the establishment of the original conditions. The indication is not for intestinal antisepsis, at best a hopeless task, but the restoration of the previous microbic equilibrium. For this the removal of irritant material and the limitation of food, so as to cut off the supply of nutrient media for undesirable growths, are the desiderata. The prophylaxis of the annoying intestinal disturbances involves the exercise of judicious care in the selection of bland food during the first days after any alteration of environment, whether that be due to change of habitation or of temperature.

PROFESSOR VIRCHOW'S EIGHTIETH BIRTHDAY.

To the roll of famous octogenarian scientists, such as Alonzo Clark, Valentine Mott, Herbert Spencer, Lord Lister, Kölliker and Ernst Haeckel, we may add on the day of October 13th, the name of Rudolph Virchow, the father of pathology and the exponent of modern vitalism.

All scientific Europe is preparing to devote Saturday, October 12th, to celebrations and festivities in honor of the venerable but by no means antiquated professor; and so great is the enthusiasm that it has spread to the sons of science in America.

Therefore, in obedience to a spontaneous feeling of sentiment and reverence, a number of physicians have proposed to give a dinner in New York, simultaneously with their trans-Atlantic brothers, to honor the great old man.

The invitations are extended to the members of the Academy of Medicine, and Dr. Osler will be master of ceremonies; the dinner will therefore be a delightful occasion, and whether Professor Virchow be sensible or not of the kindly glow of feeling that will warm the hearts of the post-prandial speakers in his honor, the representative men in medicine who will dine together next Saturday evening, will at least be conscious of what they owe to this wonderful eighty-year-old scientist.

ECHOES AND NEWS.

NEW YORK.

St. Luke's Hospital Endowments. — St. Luke's Hospital received last week a bequest of $6,000 under the will of Mrs. Harriet B. Ranney, widow of the late Dr. Moses H. Ranney. This bequest is to be devoted to the maintenance of a bed to be known as the Dr. Moses H. Ranney Bed. An additional sum of $3,000 is to be devoted to the endowment of a bed in the same hospital to be known as the Willard M. and Julius H. Ranney Bed, in memory of her deceased sons.

New Building for St. Luke's.—The Board of Directors of St. Luke's Hospital recently held a meeting in the hospital building, on Morningside Heights, with the President, George M. Miller, in the chair. A matter of importance was the consideration by the Board of the construction of a pavilion on the northwest corner of One Hundred and Thirteenth Street and Morningside Avenue, to be connected with and form a part of the hospital, but to be devoted exclusively to private patients. Plans and specifications for the new building have been ordered. It was the opin-

ion of the directors that there is a demand for such a building that would justify the expense of building and maintaining it.

Consumptives Must Leave St. Luke's.—The Board of Directors of St. Luke's Hospital recently adopted the report of a special committee recommending the cancellation of a contract now existing between St. Luke's Hospital and the House of Rest for Consumptives. The latter is a corporation which some years ago transferred to the hospital its resources with the understanding that the hospital would thereafter care for consumptive patients.

New York Academy of Medicine.—At the opening meeting of the Academy on October 3d, Dr. A. Jacobi read an interesting historical paper on "Pediatrics in the United States before 1800." His sketches of the men who contributed to our knowledge of the diseases of children in this country were highly interesting.—Dr. Jacobi's paper constituted the Wesley M. Carpenter Lecture for 1901 and was a worthy follower of those that have preceded in this memorable series.—On Wednesday, October 9th, the Section on Otology will meet. Dr. Wendell C. Phillips will read a paper on "Symptoms Pointing to the Necessity for Operative Interference in Mastoid Suppuration," and Dr. Edwin W. Pyle will contribute a paper on "A Conservative Element in Acute Mastoid Surgery."—On Thursday, October 10th, the Section on Pediatrics will meet and a symposium on "Blood Diseases in Childhood" will be held. Dr. F. C. Wood will speak of the "Modern Technic of Blood Examinations"; Dr. G. M. Light, on the "Peculiarities of the Blood in Infancy and Childhood"; Dr. L. E. La Fétra will report on a "Case of Severe Secondary Anemia in a Child of Two Years"; Dr. C. Hermann will report on a "Case of So-called Von Jacksch Anemia"; Dr. H. Herman will report on a "Case of Leucemia of the Spleno-myelogenous Type in a Child of Eight Years." Discussion will be offered by Drs. J. Ewing, T. C. Janeway and others.

Typhoid in New York.—Cases of typhoid fever have reached high figures in New York City. The last weekly report of the Board of Health shows a decided increase in the number of new cases. One hospital has been taxed beyond its capacity, and the resources of others are under a strain to accommodate patients of this class. Yearly the number of typhoid cases increases with the coming of autumn. This year the increment is larger than the ordinary, and the accommodations at all the large hospitals are being severely taxed.

Pathological Institute Work.—Though the State Lunacy Commission, of which Dr. Frederick Peterson is the President, has selected a candidate for director for the Pathological Institute of the New York State Hospitals, his election to that position is conditional upon his passing the rigid examination mapped out under the State civil-service rules, and his name the Commission does not feel at liberty to make known for the present. A date for the examination has not yet been set, it is understood, and will not be in several weeks. Though the Pathological Institute has been without a director since Dr. Ira Van Gieson retired last spring, the routine work of the Institute has been kept up during the summer by the staff of five assistants who served under Dr. Van Gieson. When the last Legislature cut down its appropriation, the Institute curtailed expenses by giving up some of its rooms in an uptown building, and stored part of its laboratory equipment at the Manhattan State Hospital on Ward's Island, where, under the new régime, quarters will be provided for the laboratory work of the Institute.

Vaccination Law to be Urged.—The committee appointed by the County Medical Association which has been at work for the past three months inquiring into the expediency of securing a law by the next State Legislature making vaccination compulsory is almost ready to make its report. What conclusions have been reached will not be made public, however, until October 21. It is said upon good authority that, while the committee will recommend legislative action to assist in the vaccination of all persons residing within the boundaries, the word "compulsory" will be avoided as much as is possible, in order that the aggressiveness of the ignorant masses and foreign population be not aroused.

PHILADELPHIA.

Smallpox Situation More Satisfactory.—For the week ending September 28th there were 29 new cases and 3 deaths from smallpox as compared with 38 cases and 4 deaths the previous week. The Mayor has directed that the proposed annex to the Municipal Hospital, to which citizens so strongly protested, shall not be built. The State Medical Society, during its meeting here last week, passed resolutions reaffirming their belief in the efficacy of vaccination and recommending it to the public. The compulsory vaccination of school-children was also endorsed. The Committee on Hygiene of the Board of Education has ordered that teachers and other employees file within two weeks certificates showing that they have been vaccinated or have had smallpox.

Homeopathic State Medical Society.—This Society held its annual meeting in Pittsburg last week. A matter of surprise was the fact that many letters had been sent to Governor Stone by members of the profession, asking that he withhold his signature from the appropriation for the proposed State Homeopathic Insane Asylum. Dr. R. R. Mercer of Chester was elected president. The next meeting of the Society will be held in Philadelphia.

Good Results from Sanatorium.—Encouraging reports come from the consumptives at White Haven. They are now quartered in an old barn, which allows free access of air and,

fitted up as it is, makes a much more appropriate home than its name would indicate. Seventeen persons are now in the sanatorium and the improvement in their condition is very gratifying. Work on the hospital to accommodate 200 patients will soon be begun.

Philadelphia Streets.—The streets of this city are at present in an exceedingly bad condition, a local paper characterizing Philadelphia "a barricaded, disorderly city, with streetways agape and dirt everywhere." The conservative *Ledger* says: "Unclean thoroughfares have not been uncommon in the past, particularly under the present administration, but it is difficult to recall a time when the accumulation of rubbish and filth is as offensively evident as at this time, or when the city officials were as calmly indifferent in the matter of disciplining those who are responsible. One cause of the disorder is, of course, due to the tearing up of the streets by the Keystone Telephone Company to lay its conduits, and to digging the trenches by the city for the new water-mains for the better protection of buildings against fire. These works, proper in themselves, are conducted with a total disregard to the comfort or convenience of the citizens or the cleanliness of the streets." That the health of the city will suffer from this condition seems almost assured.

Notes on the State Medical Society.—President Davis made an admirable presiding officer, especially in the matter of keeping the sessions up to schedule time. Ten minutes were allowed for papers, too short a time, by the Constitution. The last ten were cut to five minutes each in order to finish on time. The special lantern demonstration was a feature of the meeting. "The Life History of the Ovary," by Dr. Clark, was a demonstration of his theory of the mechanical basis of the menopause. The ovules are pushed from the center to the periphery of the organ by a free central blood-supply. The scars left form fibrous tissue which extending outward toward the surface prevent the passage of the ovules.—The membership of the Society is 3,460, an increase of 110 during the past year. Efforts to increase it still further are to be made by a committee who will visit backward counties for the purpose of arousing greater interest in the local societies. Resolutions were passed endorsing the course of the attendants on President McKinley; reaffirming the belief of the Society in the efficiency of vaccination; and denouncing the abuse of dispensaries by people able to pay for medical attendance. The following was suggested as a remedy for the latter condition: "*Resolved*, That this joint committee recommends to our respective associations that the Legislature pass an act requiring that all persons seeking aid at dispensaries and other charitable institutions record their names and addresses, or, when unable to write, make their marks, as is customary in legal documents, in a book kept for the purpose, which shall be open to inspection by proper persons, and, if possible, inflict a penalty upon those who fraudulently receive aid."

CHICAGO.

Commencement Exercises of the Illinois Medical College.—These were held September 25th. Fourteen students received the degree of Doctor of Medicine, and one the degree of Doctor of Pharmacy.

Scarlet Fever in Evanston.—It is said that scarlet fever is quite prevalent in this city. There are at present thirty-two cases, and the health authorities are energetically fighting the disease. School attendance has been seriously interfered with, as many parents fear the disease. Milk is said to be the probable cause of the epidemic.

Appointment of Dr. Farrell.—Dr. P. J. H. Farrell has been commissioned major and surgeon and assigned to the Sixth Infantry of the Illinois National Guard.

Women Arraigned by the State Board of Health.—Seven women physicians have been arraigned by the Illinois State Board of Health for practising medicine without licenses and for advertising themselves as physicians. It is said that of these only one name appears on the physicians' register.

GENERAL.

Gift to a Physician.—Dr. A. S. Zabriskie, one of the oldest physicians of Suffern, N. Y., recently, celebrated his eighty-second birthday at his home there. He came to Suffern forty-five years ago. He was presented with a purse of $500 by his friends.

Egyptian Congress of Medicine.—The preliminary program of this Congress, to be held December 10-14, 1902, under the patronage of the Khedive, has just been received. The subjects of special interest are those diseases of distinct importance to Egyptians, notably anchylostomiasis, bilharzia, yellow fever and abscess of the liver.

Burrage Hospital in Boston.—The plans for this new hospital for the sick children of Boston have just been announced. The hospital is to be situated on Bumkin Island, in Boston Harbor, and is given for the benefit in the summer time of the poor sick children of Boston. It is intended that it shall have special reference to children who are crippled and unable to keep themselves. It is not probable that the use of the hospital will be limited to this class alone.

Zionist Father Adjudged Guilty of Manslaughter.—A member of the Christian Catholic Church in Zion was last week adjudged guilty of manslaughter by Justice Walker of Vancouver, B. C., on the charge of causing the death of his two children by failing to pro-

vide them with medical attendance, which the Judge held is one of the necessaries of life. Such necessaries the criminal code provides a father shall provide for his children.

Paris Hospital for Americans.—The project of erecting an American hospital in a suburb of Paris like the efficient English institutions of the kind was about to be abandoned when the Duchess of Marlborough made a gift of $10,000, and it seems more than likely that such a desirable institution will be founded in the near future.

Plague Reports.—The Brazilian Government has declared the city of Rio Janeiro infected with the bubonic plague. The port of the city is under suspicion. At least fifteen cases of plague have been found in Naples and vessels from that port are quarantined by the United States authorities.

Virchow Research Fund.—According to *Science,* the city of Berlin will contribute $25,000 toward the Virchow foundation for research, now being enlarged in honor of Professor Virchow's eightieth birthday.

XIIIme Congrès International de Médecine.—The General Secretary desires to inform the members of the XIIIth International Congress of Medicine that the printing and forwarding of the general volume and of the seventeen records of the Sections are now entirely finished. Any member who, by mistake, should not have received the volumes to which he is entitled is hereby requested to address the Editors of the Congress, Masson & Co., 120 Boulevard Saint Germain, Paris. After December 31, 1901, any reclamation will not be acknowledged.

Sir James Crichton Browne on the President's Case.—"I am confident I am expressing the unanimous opinion of the British medical profession," said Sir James Crichton Browne at the banquet of the Bowyers' Company in London last week, referring to a touching allusion made by the Chairman, Mr. Morgan, M.P., to the death of Mr. McKinley, "when I declare that the surgeons who attended the late President of the United States showed the utmost skill at every stage and did everything possible to alleviate the sufferings and prolong the life of their illustrious patient. American and British yachts may compete for victory, but between American and British surgeons there is no rivalry—only mutual respect and good will."

Nicholas Senn Prize Medal.—The Committee on the Senn Medal beg leave to call attention to the following conditions governing the competition for this medal for 1902:

1. A gold medal of suitable design is to be conferred upon the member of the American Medical Association who shall present the best essay upon some surgical subject.

2. This medal will be known as the Nicholas Senn Prize Medal.

3. The award will be made under the following conditions: (*a*) The name of the author of each competing essay shall be enclosed in a sealed envelope bearing a suitable motto or device, the essay itself bearing the same motto or device. The title of the successful essay and the motto or device is to be read at the meeting at which the award is made, and the corresponding envelope to be then and there opened and the name of the successful author announced. (*b*) All successful essays become the property of the Association. (*c*) The medal shall be conferred and honorable mention made of the two other essays considered worthy of this distinction, at a general meeting of the Association. (*d*) The competition is to be confined to those who at the time of entering the competition, as well as at the time of conferring the medal, shall be members of the American Medical Association. (*e*) The competition for the medal will be closed three months before the next annual meeting of the American Medical Association, and no essays will be received after March 1, 1902. Communications may be addressed to any member of the committee, consisting of the following: Dr. Herbert L. Burrell, 22 Newbury Street, Boston, Mass.; Dr. Edward Martin, 415 S. 15th Street, Philadelphia, Pa.; Dr. Charles H. Mayo, Rochester, Minn.

Yellow Fever Institute.—According to the Marine Hospital Reports, a plan for the organization of a yellow-fever institute in the United States Marine-Hospital Service, whose object will be to collect all facts concerning yellow fever, to designate the specific lines of investigation to be made, and to make the investigations, is presented by Dr. Walter Wyman, Supervising Surgeon-General of the United States Marine-Hospital Service. The members of this institute are to be the medical officers of the Service, and others specially qualified. They will be assigned for duty to one of four sections, each section having a special list of topics for consideration. Each of the four sections will be under the direction of one of the medical officers on duty in this Bureau, and said Bureau officers, with the director of the hygienic laboratory, the Surgeon-General, and a secretary, will constitute an executive board, which is to have general oversight of all the investigations. This furnishes a convenient method of administration, as the machinery of the institute will be readily operated in the Bureau, while the actual work will be carried on by members at various places. At present, the Service work on yellow fever is being conducted by a limited number of officers working on more or less independent lines. The institute provides for observation and experiment by a large number of workers in accordance with a general system—in fact, organizing and coördinating the work that has

been going on and which is to be done. The stimulus to the members will be not only the scientific interest in the subject, but the publication of their contributions in the shape of bulletins as often as it seems advisable to the board; and with the Department facilities and necessary funds for incidental expenses, it is believed that the organization will meet with a degree of success warranting its existence. Four sections are proposed—one on History and Statistics; another on Etiology, a third on Transmission, and a further one on Quarantine and Treatment. This is a desirable move and the organization of such an institute a much needed want.

National Hospital at Seattle.—Plans to establish a national hospital at Seattle, Washington, are being discussed by the Chamber of Commerce of that place as a memorial to the late President McKinley. Lieut. A. B. Wyckoff, U. S. N., retired, a member of the Chamber of Commerce, in speaking of the project, said:

"When the hospital has been built and equipped it should be placed in charge of some central and permanent authority for its government and maintenance. I would suggest that it be turned over to the General Government for the treatment of our soldiers and sailors, and the veterans of the Civil and Spanish Wars who may be suffering from serious complaints, like malaria, lung troubles, rheumatism, etc. There are homes for Grand Army men in many States, and there are hospitals for the treatment of soldiers and sailors, but none of them are located in special climates or equipped for the treatment of chronic diseases such as I have enumerated. From my wide experience in all parts of the country, I believe that no climate can be found combining the great advantages for the treatment of the above diseases superior to that of Southern California. A locality could be selected there where the atmosphere is dry and free from all malaria, in the midst of grand and engaging scenery, in the vicinity of hot mineral springs, away from the temptations of city and town, and yet where the patients could have the innocent diversions of boating, shooting, fine roads for driving and bicycling, and all kinds of out-door amusements. A warm and equable climate is necessary for the comfort and happiness of suffering soldiers and sailors, and a location in Southern California meets these conditions, as well as being the nearest point to the Philippines, where a large part of our Army and Navy will be stationed for years to come. I hope, if the Chamber of Commerce takes up the matter of a memorial hospital to our beloved President, it may do it in a definite way and along the lines of the above suggestion. Seattle has a magnanimous spirit, and will not hesitate to recommend another locality for such a purpose if it is thought to be more suitable."

Site for a New Baltimore Hospital.—The Municipal Hospital Commission of this city consummated yesterday the purchase of a site for a new hospital for infectious diseases. The land is on the Reisterstown pike, just outside the city limits. There are ten acres in the tract and the price paid was $20,000. Health Commissioner Bosley has been endeavoring for a year to make the municipal authorities realize the need of such a hospital. He believes that the new site is an admirable one. A number of handsome buildings will be erected.

Health of Philippine Army.—In speaking of conditions in the Philippines, Gen. George M. Sternberg, Surgeon-General of the United States army, who has just returned from the islands, said last week: "I was surprised at the excellence of the hospital service and the arrangements for caring for the sick and wounded. We have a department in the islands that we should be proud of. The percentage of sick remains about the same as during the early part of the campaign, namely about seven per cent. Taking into consideration what we have to contend with over there, and comparing it with the records of the civil war, it will be seen that we have made great improvements in our military hospitals. The new convalescent hospital at Santa Mesa, built of nipa, is almost perfect. The men are subject to malaria, typhoid, and dysentery for the most part. The latter is the worst. A little bubonic plague exists among the natives and Chinese, but it is not enough to occasion alarm or drive people into hysterics. I am well pleased with what I saw, and am satisfied."

Obituary.—Dr. Abram Litton, whose death was recently announced, was the oldest citizen of St. Louis, Mo., and was for fifty years a member of the faculties of Washington University and the St. Louis Medical College.

Dr. James W. Dunphy died last week from tuberculosis at the home of his parents, No. 58 Convent Avenue, New York. He had been an invalid for four years, and for the greater portion of that time had practised medicine at Saranac Lake. Dr. Dunphy was born in 1875, and at the age of nineteen was graduated from the College of Physicians and Surgeons.

Dr. E. W. McClere, of Winsted, Conn., was drowned, last Wednesday. He was thirty-five years of age, and a graduate of a New York College.

Impetigo Contagiosa.—Hodara strongly recommends touching each pustule daily or every second day, with a 50-per-cent. solution of silver nitrate. A cure is said to follow after two to four applications. For children, in case it is undesirable to trust the parents with such a strong solution, one of from 2 to 5 per cent. will suffice, but must be applied once or twice daily, and each pustule then dusted with calomel, 1.0 gram, amyl, 9.0 gram. (*Monatsh. für prakt. Dermatologie,* No. 3, Vol. xxxiii.)

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, September 21, 1901.

THE DEATH OF PRESIDENT M'KINLEY—PROMINENT PATIENTS AND MEDICAL BULLETINS—VARIOUS METHODS OF ANNOUNCING THE DEATHS OF PRESIDENTS AND POTENTATES—SIR MORELL MACKENZIE AND THE EMPEROR FREDERICK.

THE medical profession here has fully shared in the indignation and deep sorrow universally felt by the British people at the shocking crime of which Mr. McKinley was the victim. Many of us, perhaps, were a little doubtful as to the wisdom of the early bulletins which to those who had had experience of the wayward course so often taken by abdominal wounds seemed imprudently optimistic. But we also knew that the late President was in the hands of surgeons on whose skill and judgment the most implicit reliance could be placed; and we awaited the result with confidence. The shock of the fatal issue was all the greater when it came. It has been said that the lowest depth of human misery is reached by the commander of a beaten army; but I have often thought that the position of physicians and surgeons who have to fight a losing battle against death at the bedside of one of the potentates of the world is just as unenviable. For many years one of our foremost surgeons was known to the public as "the man who killed the Emperor," and I have heard an American say in a public speech here that General Grant's end was hastened by the injudicious overfeeding forced on him by his physicians. The late Czar dismissed a physician in whom he had put his trust for years because he failed to achieve the impossible. Foolish criticisms, by no means confined to the laity, have been heard on the way in which the wound which caused the death of President Carnot was dealt with, although the case was from the first past all surgery.

Some superfine gentlemen of the medical profession here profess to feel disgust at the publication in our leading newspaper, the *Times*, of details as to the attempted rectal feeding and its consequences in the case of your late President. Such prudery in a doctor reminds one of the dainty lordling who complained to Hotspur of the soldiers who brought a slovenly unhandsome corse betwixt the wind and his nobility. The question of bulletins must always be a difficult one, and any violation of the privacy of the sick-room is of course in the highest degree indecent. But it is surely absurd to treat the case of the ruler of a powerful nation as on the level with that of an ordinary citizen. The people have, it seems to me, every right to know the truth—if not the whole truth—as to the condition of one in whose existence each of them may justly claim to have a personal interest. Presidents, princes and potentates and those about them should encourage this curiosity within reasonable limits; in the case of monarchs, at any rate, it would augur ill for the continuance of the dynasty if the people were indifferent about their illnesses. This is a truth which the Royal Family of Great Britain has never yet grasped. The late Queen, our present "most gracious" sovereign, and even the smaller fry of Royal personages have always shown a morbid dislike of publicity in regard to the ills their august flesh has from time to time been heir to. I suppose they do not care to have it known that they are subject to the common lot of humanity. Hence bulletins about them are edited with the rigor of a Russian press censor, and are carefully pruned of any expression that might be likely to convey anything but a vague general statement. Poor Lear said his hand smacked of humanity. The humblest of our Royalites would not make such an admission about any part of his sacrosanct person. As a curious instance of the courtly reticence imposed on physicians even after the death of a royal patient, I may quote a passage from the bulletin in which the death of Queen Victoria was announced. It was stated that "in the last few hours of life paresis of the pulmonary nerves set in, the heart beating steadily to the end." The exact meaning of this cryptic phrase was the subject of some discussion among members of the medical fraternity, and at last some one plucked up courage to ask one of the distinguished men who had ministered to the Queen in her last moments what the words were intended to convey. He threw the responsibility on the author of the bulletin, suggesting, however, that the phrase "paresis of the pulmonary nerves" was intended to get over the ugly term "tracheal râles." The author's own account was that it was used to cover the act of dying from what is known as paralytic filling of the lungs. So that all this mystery and diplomatic ingenuity of phrase were thought to be necessary to avoid the blasphemy of saying that the Queen had the death-rattle in her throat as she passed into the land of shadows!

In the account of the President's death given in our newspapers it was stated that the announcement of the fatal result was made by Dr. Rixey in the words "The President is dead!" There is a simple dignity about this that compares very favorably with some announcements of a similar kind that have been made in Europe. It is said that the fact of Queen Victoria having vacated the throne she had occupied so long was notified to the heir of the crown by one of the physicians as follows: "Your Majesty, Her Majesty is dead!" For grotesque incongruity this would be difficult to beat. After the close of the long agony of the Emperor Frederick of Germany, Sir Morell Mackenzie announced the fact to those about the bed with uncouth bluntness in the words "He is quite dead now." The most graceful of such announcements that I have seen is that of Dr. Barth to Madame Thiers on the death of the first President of the new French Republic: *"Madame, votre illustre mari a vécu!"*

The mention of Morell Mackenzie reminds one of a statement which recently appeared in one of your contemporaries to the effect that, owing to his conduct in connection with the case of the Emperor Frederick, he was tabooed by the medical profession here and died of a broken heart in consequence. The fact is that Morell Mackenzie had been in bad odor with his professional brethren for many years before he had anything to do with the Emperor. It would serve no useful purpose to discuss now whether they were, or were not, justified in ostracizing him; but it is only right to say that he was judged very harshly and treated as an outcast by men not one whit his superiors in professional morality and infinitely his inferiors in capacity. British doctors, being like most of their race, naturally inclined to worship at the shrine of success, and holding as an article of faith that any connection with royalty has a purifying effect on the worst social sinner, would have placed Mackenzie on a pinnacle of glory—had he succeeded. But failure meant ruin. I think, if the truth could be got at, it would be found that the profession is now ashamed of the rancor with which, at the instigation of men who owed everything to him, they pursued a man who had many fine qualities and who, had not an evil fate prevented his fulfilling the promise of his early days, would have been one of the glories of British medicine. He had bitter cause to feel the truth of the maxim "Put not thy trust in princes." He risked his reputation and his practice in trying to serve our Royal Family, for it was to ensure the Empress a larger allowance that the policy of *laissez aller* was adopted in the case of the Emperor—and when he had done what was wanted, they cast him off as a workman throws away a broken tool.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

ULCERATING GONORRHEAL AORTIC ENDOCARDITIS—GASTRIC CANCER—COAGULA IN THE URINE—TRAUMATIC SCARLATINA—RACHITIC SPASMUS NUTANS—SO-CALLED FETAL RACHITIS.

Michaelis and Jacob, at the Verein für innere Medicin in Berlin, July 8, 1901, showed a heart with ulcerating gonorrheal aortic endocarditis, taken from a man who died of the disease two months after the infecting coitus and diagnosed as such during life. The confirming bacteriological and pathological considerations were the distinct and characteristic Gram's stain, the deep intracellular abode of the germ in the valve-flaps, and the characteristic growth of it only on the fixed well-known media. Since Von Leyden expounded the first definite case of this instructive condition, reports of about fifty subsequent cases have appeared in literature.

Albu showed a specimen of gastric cancer, at the pylorus, whose duration of four years had indicated benignity. In structure it was an adenocarcinoma. Contrary to the contentions of many, Albu maintains that sarcinæ occur only in benign gastric growths. This is contrary to the teachings of Strauss and others.

A. Rothschild presented specimens of coagula from the urine of a man, fifty-nine years old, who for a long time suffered from hematuria, accompanied by the presence of long coagulated masses. Their size was often that of the little finger and suggested the ureters as the seat of origin. They were rather waxy and transparent. Chemically they could not be definitely made out, excepting that they were not composed of fibrin. Late in the patient's disease an abdominal tumor manifested itself. Upon autopsy this was found to be a giant-cell sarcoma of the upper pole of the kidney. In the interstices of this sarcoma was much more of the same coagulated material as had been found in the urine. A large coagulum presented also in the ureter.

Lippmann related the history of a case of evidently traumatic scarlatina. The patient was a hale and hearty boy who during a fist-fight was struck in the cheek. That night he was overtaken with headache, chills and fever. Soon after an eruption appeared, which soon proved to be true scarlatina. The disease ran its usual course and recovery occurred only after a pronounced exfoliation. The theory of the origin of this attack is that the tonsil on the side of the face struck must have contained the streptococci and by the blow was sufficiently inflamed to set up their activity and then the scarlatina. No other possible origin of the disease was discoverable.

Stamm, at the Biologische Abtheilung des ärtzlichen Vereins, Hamburg, June 18, 1901, read a paper on the subject of spasmus nutans of children. He had himself seen 8 cases in his practice; 5 of the children were just over one year, 1 was less than a year and 2 were nearly three years old. Spasmus nutans includes the nodding, swaying or turning of the head with or without cramps and often appearing during the first year of life. The muscles of the trunk and of the extremities usually escape, but those of the eye, on the contrary, are often involved. Nystagmus was the form of this affection usually encountered by him and was of the horizontal variety, usually bilateral, occasionally unilateral. The pupillary reflexes and fundus were always normal There never were any symptoms which might point toward central nervous lesions. The nystagmus always increased in intensity if the children were at all restrained and the head movements hindered. Once in a while there appears a strange vacant fixed eye as if the child were dreaming open-eyed. The eyes are then usually turned to one side without being fixed on any special object, and meanwhile the noddings of the head are apt to be excessively severe. Loss of consciousness does not appear to have occurred. In most of the children the head movements preceded the nystagmus. In all of the cases there were present the symptoms of manifest rachitis, which always yielded to ap-

propriate treatment and left the individual in perfect health. Definite distinction must be drawn between this simple, easily cured spasmus nutans and those malignant and serious forms of spasm called salaam cramps, epileptic and eclamptic nutant spasms, due always to serious cerebral lesions, accompanied by various degrees of lumbar and extremity pareses or paralyses, loss of consciousness and commonly leaving behind them epilepsy and various degrees of idiocy or mental imperfection. Such always also have central lesions in the nervous system at their basis. Likewise in contradistinction to this rachitic must be placed the purely congenital spasm of the eyes and that acquired often during childhood, frequently accompanied by a twisted position of the head and neck and sometimes by their nodding also. The consideration of the history of these cases either as a congenital or acquired affection will establish the diagnosis. Further, the ready way in which the rachitic type yields to treatment is another means of distinction. He presented to the society a case of acquired rotatory spasm, in which the patient, a strong seven-year-old boy, had in early childhood developed a macula corneæ, and since that time had suffered from rotation of the head to one side. In discussing the various causes which in literature are assigned as the various etiologic factors (dentition, worms, various intestinal dyspepsias, trauma, etc.), Stamm was inclined to take the view of Raudnitz, who assigns it to vision and compares it to the peculiar nystagmus seen in mountain dwellers, comprising a depression of the eye toward the ground. The habits of life in these people from infancy tend always to acquire. For the true spasmus nutans rachitis is always the sole etiological factor. For the selection of certain muscles to determine the special type of nodding in various cases, doubtless we have to consider local meningeal disturbances, especially when the skull is involved in the disease to any marked degree. Therapeutically phosphorus is almost a specific.

SIMMONDS read a paper on the topic of the so-called fetal rachitis and aimed to bring out fetal life and its relations, chiefly by pure inheritance rather than by the state of parental health at the moment of conception to this disease in early infancy. In summing up the causes of rachitis, reckoning with this one must not be forgotten, for one sees cases in which the disease appears, although the food and hygienic surroundings are ideal, with the sole evident factor pure inheritance from the mother or father or both, themselves in infancy rachitic. And contrariwise one sees infants in bad surroundings, with poor food, but with a non-rachitic parental history, who do not develop the disease. It must be distinctly grasped that the question is one of truly inherited disease not of the congenital type, and at that the inheritance is rather one of disposition than of the disease itself. Concerning the absolutely congenital type of rachitis, that is, a rachitis of intra-uterine origin, he stated that he had never found one case of it, although he has had at hand a vast quantity of autopsy material, which he has diligently searched for it. He therefore stated that a really congenital rickets is probably an exceedingly rare disease. His investigations were carried to the histological standpoint also. What in earlier days was called congenital or intra-uterine rickets he has repeatedly found to be imperfections in bone development, periosteal or cartilaginous in origin, which could fittingly be called *osteogenesis imperfecta* and *chondrodystrophy*. In each the development of the bones in length is less than the normal; in the former the consistency is soft and friable and in the second it is normal. Other authorities agree in this; for example, Kaufmann distinguishes three groups of chondrodystrophia fetalis as follows: (1) Hypoplastic, in which the epiphyses remain small; (2) malacic, in which softening is present in the cartilage; (3) hypertrophic, in which a thickening of the epiphyses occurs, a very rare form. Roentgen-ray pictures were exhibited showing the hypertrophic form with its very short long bones, much bulged at the extremities, narrow pelvis and other deformities, especially bending inward of right and left femora and tibiæ at the knee. Microscopically it was shown that the lesion was purely a cartilaginous change; the cells at the epiphyseal line were not distinguishable, as they should be from the bone, and were in addition hyperplastic and hypertrophic. In the other case there was a periosteal cell-element invasion which distinguished it from the other. Under cretinism or semi-cretinism these cases could not be classed, because the typical facial expression, the characteristic development of the nasal bones, the precocious hardening of the synchondrosis spheno-occipitalis, the gross and minute pathognomonic conditions of the thyroid gland, the well-known fatty redundancy of the skin, the hypertrophy of the skin and the usual family history were all absent; in brief, not one element bespoke cretinism. Finally, therefore, the result of his careful studies up to the present point toward the rarity of truly congenital rachitis.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-first Annual Meeting, Held at Philadelphia, September 24, 25, 26, 1901.

SECOND DAY—SEPTEMBER 25TH.

(Continued from page 516.)

Bronchial Affections in Gout and Obesity.—This paper was read by Dr. J. M. Anders of Philadelphia and dealt with the various forms of bronchitis and asthma associated with obesity and the gouty state. In the obese the respiratory difficulty is often supposed to be due to mechanical effects of the fat, but in many instances there

is a low respiratory capacity and an anemia. The condition of the muscles and blood has, therefore, much to do in causing the dyspnea. A thoracic symptom of overfatness is pain, worse on exertion, in the subscapular and intrascapular muscles. A passive venous congestion of the bronchial mucosa in these cases causes a hyperemic bronchitis. There is cough aggravated by exercise and often occurring in severe paroxysms after a night's rest. Bronchial affections are more common in the anemic than in the plethoric variety of obesity. Closely connected with the last variety of bronchitis is asthma. This is probably due to the heart to some extent, but defective respiratory capacity is the greatest cause. Asthma in the corpulent is often due to gastric disturbance. The gouty state often accompanies obesity, and there is reason to think that both are due to hepatic inadequacy. This may lead to obesity owing to interference with the glycogenic function of the liver. Severe paroxysmal dyspnea in obesity is not true asthma. Erect posture relieves this condition. Asthma occurs in five per cent. of obese persons. Fifty per cent. of cases can be cured by overcoming the causative condition. Gout and obesity are closely associated. Gout independent of obesity is a potent factor in causing asthma. The attacks alternate or coincide with the attacks of gout, especially in the chronic and irregular forms. To treat successfully this form of asthma the etiological condition must be borne in mind. There are cases of the gouty state where conspicuous changes in the joints and elsewhere are lacking, but hepatic and renal inadequacy—the lithemic state—are present. In these the true cause of the asthma is often overlooked. Exacerbations in this form may occur any season of the year, as they are due to fluctuations in the uric acid present.

Pseudoleucemia, Enlargement of Liver and Spleen, Due to Lymphatic Tuberculosis.—Dr. Joseph Sailor of Philadelphia reported three cases of this condition which have come under his observation during the past six months. The cases were briefly described as follows: There is a moderate anemia, no leucocytosis, normal differential count, with gradual wasting, general anasarca, and ascites toward the last. The liver and spleen are enlarged. In some the temperature is very irregular. The superficial lymphglands are rarely enlarged, but autopsy shows tuberculous enlargement of the abdominal and mediastinal glands.

The Duration of Immunity from Diphtheria Antitoxin.—This was discussed by Dr. Henry D. Jump of Philadelphia. He quoted many series of statistics and also gave his personal experience. He concludes that immunity can be conferred, but that its duration is short—ten to twenty-one days perhaps. The expedient should be used in every family when a case is discovered.

Medical Examination as a Prerequisite to Marriage.—Dr. J. C. Bateson of Scranton read a paper in which he strongly advocated legislation requiring such examination.

At this session papers were also read by Dr. E. N. Ritter of Williamsport, on "Lay Medical Education"; Dr. John M. Batten of Downingtown on "Strength"; Dr. Louis J. Lautenbach of Philadelphia on "The Doctor's Fee: Is It Fixed and Definite?"; Dr. Linnæus Fussell of Media on "Therapeutic Notes."

Third Day—September 26th.

Address in Surgery.—Dr. James W. McFarlane of Pittsburg delivered this address, the subject of which was "The Arrest of Hemorrhage, with Especial Reference to Torsion Where Feasible to the Exclusion of All Other Methods." Dr. McFarlane advocates the use of free torsion in all cases instead of the ligature. When free torsion fails, as it will in occasional instances, limited torsion is not indicated. The ligature or some form of forcipressure is needed. The use of torsion was begun in the Western Pennsylvania Hospital in 1870. Soon the institution had a wide reputation for the rapid healing of amputation stumps. The method is now used almost exclusively in that institution. All sized arteries, from the femoral down, are treated in this way, atheroma being no contraindication. The method is superior to the ligature in point of time of appliance, it leaves no foreign body in the tissues, and no assistant, who might carry sepsis, is needed.

The Operative Treatment of Bladder Descent and Sacculation.—This was the title of a paper read by Dr. George Erety Shoemaker of Philadelphia. Reference was made to females in whom there are perineal lacerations and more or less prolapse of the uterus and bladder. The operations of curetting, amputating the cervix, repairing the cystocele and perineum, and suspending the uterus must all be done. The departure made by Dr. Shoemaker is in the management of the cystocele. The Emmett, Stoltz and other operations are too superficial. The best way is to cut out completely the anterior vaginal wall back to the areolar tissue. The bladder is peeled off from the vagina and the cut edges brought together. In 25 cases this expedient has given good results and relieved the bladder symptoms previously present.

The Present Status of the Bottini Operation.—This paper was read by Dr. Orville Horwitz of Philadelphia, who gave statistics of 834 cases by 38 operators, 36 being his own. The paper was a strong argument in favor of the Bottini operation. Horwitz believes that, if full data be obtained by a minute examination in each case, the operation is not so blind as that of tearing the prostrate out through a small hole in its capsule. Of his 36 cases there was a tendency to recurrence in only 3 instances. Constriction of the neck of the bladder is to be little feared. The principal advantages of the operation are the short time necessary, the slight shock, the rapid

convalescence, and the low mortality. It is the best radical operation yet devised.

Surgery in its Relation to Neurasthenia.—This was the subject discussed by Dr. G. D. Nutt of Williamsport. He pointed out some of the pathological states that by constant irritation produce neurasthenia. Where surgical operation is feasible, the treatment is indicated.

Rare Complications of Appendicitis, with Their Treatment.—Dr. Ernest La Place of Philadelphia read a paper on this subject. The speaker, after discussing the various infections present in appendicitis, spoke of the rare abscess formations sometimes met with. They show in various regions of the body, no pain being referred to the appendix. One case reported was a supposed empyema. Perforation of the ureter, bladder or rectum is sometimes met with. These cases show the necessity for prompt surgical intervention. In every case of appendicitis it can be said that there was a time when operation would have saved the patient's life. No one should be guilty of letting that time go by.

Radical Cure of Hernia.—The principles and detail of his method were given by Dr. Edmund Holmes of Philadelphia. In a normal person the pressure of the abdominal viscera is obliquely against the internal ring and inguinal canal. In hernia formation the pressure is straight in the line of the canal. The object of operation is not so much to close the canal as to restore the parts, so that pressure will again be indirect. For this reason not too much attention should be given to closing the external ring or bringing down the rectus muscle or diminishing the size of the cord. A new internal ring and new inguinal canal that is oblique are to be formed. The technic of the operation was given. Chromicized catgut is used, except for the skin which is united by silkworm-gut. The patient is kept four weeks in bed and an abdominal support worn for one year.

A Case of Perforating Typhoid Ulcer; Laparotomy; Recovery.—This case was reported by Dr. W. L. Rodman of Philadelphia. The patient was a girl of twelve who was suffering from a severe attack of typhoid fever. Perforation had occurred at least thirty-seven hours before operation. At the time of operation there was general peritonitis, frequent vomiting, marked tympany, and a weak pulse beyond 150 per minute. Ether was given and the abdomen opened in the middle line, as it proved, directly over the perforation. The opening was closed without paring the edges, the abdomen flushed, and drainage of gauze and a tube inserted. The operation lasted sixteen minutes, during which the patient received heroic stimulation. She finally made a perfect recovery in spite of the fact that a hemorrhage from the bowel occurred forty-eight hours after the operation. Dr. Rodman concludes that every case of perforation should have the benefit of laparotomy, even though seen some time after the accident. The case reported was thirty-seven hours after perforation, and a case of gunshot wound recovered, though operated upon fifty-one hours after the injury was received. General anesthesia can be borne in such cases. In adults he would use cocaine. Children are too nervous to give the operator needed coöperation when local anesthesia is used. An attack of sudden pain accompanied by a nervous chill the day before perforation suggested the possibility of a preperforative stage in this case; but as there are no pathognomonic signs of perforation itself, Dr. Rodman cannot see how a preperforative stage can be diagnosticated. Military surgeons look for perforations to repair themselves. It is apparently proper to decline to operate in military practice, but in civil practice it is just the opposite—as early laparotomy as shock, if present, will allow.

A Case of Ascites Due to Hepatic Cirrhosis, Treated by Transplanting the Omentum Between the Peritoneum and Abdominal Wall; Result with Autopsy Eight Months Later.—Dr. W. J. Roe of Philadelphia reported this case. Ascites was marked and intractable, the abdomen having been tapped 31 times before operation. The ascites was practically cured by operation, the patient dying from the liver condition, however. That organ was markedly cirrhotic with some fatty change also present.

Address in Obstetrics.—This was delivered by Dr. David Funk of Harrisburg. The address dealt with placenta previa, symphysiotomy, septicemia, eclampsia, and tubal gestation. In cases of placenta previa Cæsarian section is indicated in complete previa, in primiparæ when the mother is exhausted, in cases with rigid os, and in transverse positions with prolapse of the cord. Symphysiotomy is being gradually displaced in this country by Cæsarian section. Nothing new has developed in the prophylaxis of septicemia. Tubal gestation should be more often recognized and more cases saved after rupture.

Results of Operations for Cancer of the Uterus.—In this paper Dr. Charles P. Noble of Philadelphia gave statistics of various observers, including the results in 32 of his own cases. He thinks a fair conclusion from the latter is that 20 to 25 per cent. of cases are permanently cured.

Local Treatment in Gynecic Practice.—Dr. Frank C. Hammond of Philadelphia emphasized the value of local treatment in many pelvic conditions. Operation is undoubtedly avoided in many instances, but in a percentage of cases requiring operation local treatment will benefit the patient before operation. The employment of the douche, tampon, pessary, etc., has a proper place in treatment. The tampon is especially valuable in the way of medication and mechanical effect.

Instrumental Perforation of the Uterus.—A paper on this subject was read by Dr. Wilmer Krusen of Philadelphia. The ease with which a flexed or softened uterus can be perforated was emphasized. Dr. Krusen believes that no one should introduce an instrument into the uterus until he is able to diagnose the position of the

organ and discover if disease of the appendages be present. The case reported was one of perforation not recognized until omentum appeared in the vagina. Operation saved the patient.

Extra-Uterine Pregnancy.—Dr. F. P. Ball of Lock Haven reported the case of a woman who had had two extra-uterine pregnancies. Both were tubal pregnancies, one occurring three years after the other.

A Contribution to Clinical Therapeutics.—Dr. John V. Shoemaker of Philadelphia read this paper and exhibited a case of tinea versicolor.

Typhoid Fever in a Prematurely-Born Child.—This case was reported by Dr. Harry C. Westervelt of Pittsburg. On January 3, 1901, a woman in the third week of typhoid fever gave birth to a child at thirty weeks' term. High temperature in the child was noticed the following day. It fluctuated between 99 and 106° F. for some weeks, finally becoming normal February 21st. The child at birth weighed three pounds and fourteen ounces. March 21st it weighed eight pounds. September 21st the weight was over fourteen pounds. The child has also had an attack of whooping-cough.

Ruptured Tubal Gestation and the Physician.—A paper with this title was read by Dr. J. M. Fisher of Philadelphia. He stated that many cases were lost because they were not diagnosed. The knowledge of a few well-defined symptoms will prevent this error. Two points of the patient's own observation should lead one to suspect tubal gestation—disturbance of menstrual function and sterility of several years' duration following pregnancy. The symptoms of rupture are sudden, sharp abdominal pain, collapse, and acute anemia.

A New Method of Performing Nephropexy.—A paper on this subject was read by Dr. Henry D. Beyea of Philadelphia. The kidney is delivered in the usual manner and a piece of small rubber drainage tube passed around each pole of the organ, well toward the hilum, and tied externally. The tubes pass through the perinephric fascia and are thus kept in place.

Value of Tallquist Hemoglobin Scale to the General Practitioner.—Dr. M. H. Fussell of Philadelphia emphasized this point. It is accurate within 5 per cent. It is cheap and the test is rapidly made. To practitioners who say they have no time for such work, Dr. Fussell says: "Yes, it does take time, but it is worth it."

Fracture of the Neck of the Femur.—Dr. Chas. E. Thomson of Scranton reported this case. The patient was a man of sixty-two, and had gone two months without treatment. The femur was laid bare, some loose pieces of bone removed and a silver nail, 2½ inches long, driven through the trochanter and neck of the bone. There was some sinus formation afterward, but healing eventually followed. Eighteen months afterward the man walked without a cane or crutch and had 90° of painless motion.

The Pathology, Symptomatology, and Treatment of Uremia.—Dr. David Riesman of Philadelphia spoke on this subject. He referred to some nerve lesions caused by uremia—hemiplegia, aphasia, mental confusion, and insanity. Treatment is bleeding and sweating. A method of sweating which never fails is to put the patient in a bath at 110° F. for ten minutes and then in a hot pack for twenty minutes.

The Etiology of Acute Dysentery.—This was the subject of brief remarks by Dr. Simon Flexner of Philadelphia. He stated that it was definitely proven that there was a specific cause for acute dysentery. The organism resembles the typhoid-fever bacillus. An antagonistic serum can be produced.

The following papers were also presented: "Some Surprises Met with in the Practice of Obstetrics," by Dr. R. B. Ewing of West Grove; "The Value and Importance of Teaching the Fundamental Branches of Medicine from the Standpoint of Their Practical Application," by Dr. G. G. Davis of Philadelphia; "Post-Typhoidal Nephritis and Chronic Nephritis with Intercurrent Typhoid Fever," by Dr. J. E. Talley of Philadelphia; "Statistics of Typhoid Fever at the Philadelphia Hospital from 1897 to 1899," by Dr. H. B. Allyn of Philadelphia; "Amyotrophic Lateral Sclerosis," by Dr. T. L. Coley of Philadelphia.

The lantern demonstration Thursday evening was a most instructive feature. It included "The Life History of the Ovary," by Dr. J. G. Clark; "Some Lesions of Diphtheria," by Dr. R. M. Pearce; "Skiagraphy in Supposed Sprains," by Drs. C. G. Ross and M. I. Wilbert; "The Various Types of Smallpox, with Remarks on Differential Diagnosis," by Dr. Jay F. Schamburg; "Some Medical Uses of the X-Rays," by Dr. M. K. Kassabian; "The Kromskop," by Dr. F. E. Ives.

The officers chosen for the ensuing year are: President, Dr. F. P. Ball, Lockhaven; Vice-Presidents, Drs. Walter Lathrop, Hazleton; A. S. Harshberger, Lewistown; R. W. Stewart, Pittsburg; J. K. Weaver, Norristown; Secretary, Dr. C. L. Stevens, Athens; Assistant Secretary, Dr. W. B. Erdman, Macungie; Treasurer, Dr. G. B. Dunmire, Philadelphia.

The meeting adjourned to meet in 1902 at Allentown.

CHICAGO PATHOLOGICAL SOCIETY.

Stated Meeting, Held June 10, 1901.

The President, L. Hektoen, M.D., in the Chair.

Dr. Alice Hamilton presented a paper dealing with cell division in the central nervous system of the white rat before and after birth; the number and distribution of the mitoses, the period up to which they persist, and their character. Mitoses were found along the ventricular surfaces in the early stages of development, gradually ceasing here, and increasing in the outer layers, until at birth, almost all are in the outer layers. At birth mitoses are numerous and persist up to

the end of the fourth day; beyond this period no examination was made. The dividing cells are of two kinds: (1) small, devoid of visible cell body, resembling cells of the neuroglia; (2) large, with abundant cytoplasm, round, pear-shaped or spindle-shaped. These are in the gray matter of the cord and brain and correspond in measurements with the multipolar and pyramidal cells. Conclusion: In the later stages of development the offspring of the germinal cells become partially differentiated, but without losing their power to divide. The large dividing cells are, then, immature nerve cells; the small are cells of the neuroglia. In the case of the white rat, these cells retain their power of division until after the fourth day of extra-uterine life.

Dr. Wm. B. Wherry reported a case of so-called malignant (staphylococcus) carbuncle of the upper lip followed by pyemia. A barber, twenty-three years old, entered Prof. Bevan's service in the Presbyterian Hospital on February 7, 1901, and died on the 8th at 11.15 p. m. About a week before his admission he extracted a "dead hair" from his upper lip. This was followed by redness of the lip and swelling which rapidly extended to the side of the face and shoulder. He rapidly grew worse and died with all the characteristic symptoms of septicopyemia.

The postmortem examination was held twelve hours after death by Prof. Hektoen. The anatomical diagnosis is as follows: Acute, diffuse, purulent and necrotic staphylococcus inflammation of the upper lip and adjacent parts of face; multiple abscesses and hemorrhagic pneumonic areas in lungs; double fibrino-purulent pleuritis; abscess in spleen; acute splenic swelling; cloudy swelling of kidneys and liver; persistent thymus. Bacteriologically, a pure growth of the staphylococcus pyogenes aureus was isolated from the lip, heart's blood, pleural exudate, liver and spleen. Histologically, the lip shows dense cellular infiltrations with foci of necrosis containing groups of cocci which stain by Gram's method. The lung contains many pneumonic and hemorrhagic areas and mycotic emboli. The other organs show the characteristic changes of a severe infectious process. The dangers of this affection depend chiefly upon its location and the virulence of the infective agent; the prognosis is extremely grave on account of the liability to thrombosis and embolism. The treatment of the early stage which has so far given the best results is excision of the necrotic area and packing with iodoform gauze. After thrombosis and embolism have occurred, treatment seems to be hopeless.

Dr. Wm. B. Wherry read a paper on the distribution of segmentation and fragmentation in the myocardium. Twenty hearts were carefully preserved and eighteen pieces were taken from each heart. In searching for changes, the divisions into simple segmentation, and degenerative fragmentation and segmentation, made by J. B. MacCallum, were kept in mind. Degenerative fragmentation and segmentation occurred twice in the left auricle. Segmentation was distributed in the following order of frequency: left papillary muscles, wall of left ventricle, right papillary muscles, posterior surface of apex, etc. The changes in the walls practically correspond to the changes in the papillary muscles. "Diffuse" segmentation of both left papillary muscles accompanied by diastasis and displacement of the segments seems to indicate more or less general segmentation and fragmentation throughout the ventricles.

Dr. E. Friend reported a case of cystadenoma of ovary. Patient was thirty-one years old; married five years; never been pregnant; menstruation regular and painless; family history negative. About eight years ago severe pain developed in the region of the left ovary, but upon examination this was pronounced healthy. About one year ago a swelling appeared, extending from the symphysis pubis to the umbilicus, but this gave no pain until about a month ago. She then entered the hospital and at operation there was removed from the right ovary a small, multilocular cyst. The patient made an uninterrupted recovery and was discharged from the hospital cured. Adenomas develop as a result of disturbance in the formation of Pflüger's tubes in the growing ovary. Cystadenomas are simply adenomas which have undergone cystic degeneration; they consist of long, round, tortuous cavities separated from each other by connective tissue. These cavities may become obliterated entirely or partially by papilliform growths.

The present officers were re-elected for the coming year.

BOOK REVIEWS.

HEALTH AND HYGIENE FOR THE HOUSEHOLD. By JOHN JOSEPH NUTT, B.L., M.D. The Abbey Press, New York.

THIS is a small manual meant for the lay reader, containing a simple, accurate and readable exposition of the general truths of hygiene. The subjects treated are Bacteriology, Ventilation, Heat and Light, Milk, Water and Sewage, Foods and Drugs, Personal Hygiene, The Family Physician, and the Most Dangerous Classes of Diseases.

THE DISEASES OF THE RESPIRATORY ORGANS, ACUTE AND CHRONIC. By WILLIAM F. WAUGH, A.M., M.D., Professor of Practice and Clinical Medicine, Illinois Medical College, etc. G. P. Englehard & Company, Chicago.

PROFESSOR WAUGH'S little book is the last issue of the Standard Monograph Series and is arranged in two parts devoted respectively to acute and chronic affections of the respiratory organs. The purpose of the book is stated by the author in the first sentence of the preface: "It has been prepared because of the writer's belief that the treatment of acute affections of the respiratory organs has progressed far beyond that given in the text-books on practice." The program that

the author thus outlines for himself would seem to be rather extensive for so small a book. The drug treatment of respiratory diseases is very fully considered. There is, however, an abiding faith in the efficacy of drugs that is not shared by most of the medical world. Moreover, the busy practitioner would not always find it easy to decide just what is the author's favorite remedy in certain cases.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. Edited by SOLOMON SOLIS COHEN, M.D., Vol. I., Books 1 and 2. ELECTROTHERAPY by GEORGE W. JACOBY, M.D., Consulting Neurologist to the German Hospital, New York. P. Blakiston's Son & Co., Philadelphia.

DR. COHEN here gives us the opening volumes of a new system of therapy which he is pleased to call Physiologic Therapeutics. By this he means a system of therapeutics in which drug actions play no part. In it he hopes to be able to compass the range of therapy, and, if his several contributors are as successful as Dr. Jacoby in his initial volumes, there will be every reason to believe that he has done so.

These two volumes on electrotherapy are very complete and we believe that Dr. Jacoby has given us a standard work which will be of service for many years to come.

In the first volume he considers at great length, too great it may seem, the elementary principles of electricity; these need no comment save that the applications are very clearly expressed and the point of view of the writer is that of a therapuetist rather than a physicist. This first book also has a complete description of the apparatus required for diagnostic and therapeutic purposes. It is well illustrated and will prove of service to the practitioner.

Book 2 treats of electrophysiology and electropathology, and contains as well several articles on the use of electricity in surgery and the specialties.

This work is to be warmly commended, not only for the matter contained therein, but also for its convenient and practical form.

TRANSACTIONS OF THE AMERICAN MICROSCOPICAL SOCIETY. Twenty-Third Annual Meeting, 1900. Vol. XXII. Edited by the Secretary, HENRY B. WARD, Lincoln, Nebraska.

WE have had occasion to comment on the good work done by this Society since its new birth, and the present volume bears evidence of the continued excellent character of the research carried on by members interested in the microscopical sciences.

Of the papers bearing on the medical sciences may be mentioned the Detection and Recognition of Blood by A. M. Bleile; papers on Municipal Water Supplies by H. N. Parker, G. C. Whipple, and F. S. Hallis. An addition to the Parasites of the Human Ear, by Roscoe Pound; and notes on the Parasites of Lake Fish by Henry B. Ward.

There are a number of papers of biological interest. The volume is a worthy companion to its immediate predecessors.

OPERATIVE SURGERY. By JOSEPH D. BRYANT, M.D., Professor of the Principles and Practice of Surgery, Operative and Clinical Surgery, in the University and Bellevue Medical College; Visiting Surgeon to Bellevue and St. Vincent's Hospitals, etc. Vol. II. Operations on Mouth, Nose and Esophagus, the Viscera Connected with the Peritoneum, the Thorax, and Scrotum and Penis, and Miscellaneous Operations. D. Appleton and Company, New York.

THE first volume of this hand-book deserved much more than the passing word of praise we were able to bestow upon it, and even a cursory examination of this, its complement, makes us feel equally impotent in attempting to do it justice in the brief space of the conventional review.

Its title sufficiently indicates the range of its subjects which, since it embraces the all-important and dramatic topics of genito-urinary and abdominal surgery not only is of itself intensely interesting, but gives the author opportunity for some brilliant descriptive writing which makes the volume a most fascinating one to read.

Based on the same general line of treatment of the subject matter and carried out with the same minute attention to detail which at once placed its predecessor in the front rank, this volume is essentially a guide for the practising surgeon and is perhaps too elaborate for the needs of the student, but for the actual workman its value cannot be overestimated. In addition to beautifully clear and concise descriptions of all the recognized technics, as well as of minor points that are evidently the fruit of the most exhaustive and painstaking search of the literature, the results of the author's own experience are embodied in paragraphs usually entitled "precautions" or "fallacies," which draw attention to difficulties and contingencies likely to confront the occasional operator and, unless he has been forewarned, jeopardize the result of his efforts. In the first chapter dealing with the nose, mouth and esophagus, the two most important topics, *viz.*, excision of the tongue and esophagotomy, with the various stricture operations receive ample attention, eight methods for performing the former being described. The second chapter, devoted to operations on the viscera connected with the peritoneum exclusive of gynecological work, makes the main bulk of the book and is a masterpiece of lucidity and comprehensiveness. The complicated subject of intestinal anastomosis is well-handled and the frequently very intricate manipulations necessary in some of the operations are made clear and intelligible while special subjects like appendicitis receive adequate and thoughtful consideration. The section on hernia is remarkably thorough, and both in point of writing and illustration is one of the best in the book. Cushing's method of herniotomy under lo-

cal anesthesia is described, although the author is non-committal as to his own opinion of the value of the procedure. The chapter on the anus and rectum is unusually full, though we miss the description of Maunsell's useful method of telescopic proctectomy. The next section treats of the neck and thorax, the critical operation of bronchotomy in its various forms being adequately described as well as the technic of intubation. The final chapters on the genito-urinary tract and on various unclassified operations, such as the suture of ununited fractures and excision of the cervical sympathetic deserve nothing but praise and reflect the most modern teaching.

From a pictorial standpoint the book is in a class by itself, for in addition to their great profusion the illustrations are thoughtfully chosen and for the most part beautifully executed. The diagrams are really enlightening and the perspective drawings accurate, while the full-page photographs of the instrumentarium required for each type of operation are both instructive and practically useful. As it stands in its completed form the work is one that American surgery may well be proud of, and it will undoubtedly take precedence over all others of its kind for many years and be an enduring monument to the skill and learning of its author.

LECTURES ON THE HISTORY OF PHYSIOLOGY DURING THE SIXTEENTH, SEVENTEENTH AND EIGHTEENTH CENTURIES. By SIR M. FOSTER, K.C.B., M.P., M.D., D.C.L., Sec. R.S., Professor of Physiology in the University of Cambridge, and Fellow of Trinity College, Cambridge. University Press, Cambridge. The Macmillan Company, New York; $2.25.

"To Dr. L. C. Lane of San Francisco and to any other friends of that new world, the story of whose life is as yet so short, but must in time be so great, I offer as a token of my friendship this fragment of the story of the old world's life." This is the graceful and fitting dedication to this volume making up the "Lane Lectures" delivered by Sir Michael Foster at the Cooper Medical College in San Francisco in 1900.

It is a pleasing thought that so excellent an idea as the gathering together somewhat of the lives of the workers in physiology in these early centuries should have been chosen by one of the acknowledged masters of physiological thought and the medical reader is to be congratulated that so able and interesting a book is available.

The opening chapter on Vesalius, his Forerunners and Followers, sketches in a pleasing manner the state of physiological knowledge of the time. This is followed by an account of Harvey and his work; Borelli and the influence of the newer physics; Malpighi and his histological researches and their influence on physiological teaching. Van Helmholtz and the rise of Chemical Physiology make a fifth chapter, and following this in order are chapters on Sylvius, The Physiology of Respiration in the Seventeenth Century, The Physiology of Digestion in the Eighteenth Century, The Rise of the Modern Doctrines of Respiration, Black, Priestley, Lavoisier, and the Older Doctrines of the Nervous System. Such is the brief skeleton of the contents of this excellent series of lectures. We recommend them most heartily to our readers.

ATLAS AND EPITOME OF OPHTHALMOSCOPY AND OPHTHALMOSCOPIC DIAGNOSIS. By PROFESSOR DR. O. HAAB, Director of the Eye Clinic in Zurich. From the Third Revised and Enlarged German Edition. Edited by GEO. E. DE SCHWEINITZ, Professor of Ophthalmology, Jefferson Medical College, Philadelphia. W. B. Saunders & Co., Philadelphia and London.

THE intimate relationship existing between the eye grounds and various systemic conditions is being more and more widely recognized, and while it is true that a certain amount of practice is necessary before the ophthalmoscope can be made to yield satisfactory information the number of general practitioners anxious to avail themselves of this aid to diagnosis is constantly increasing. But even after the initial difficulties of technic in the use of the instrument have been mastered, the question of the interpretation of the things seen remains to be solved, and, unless the observer has had wide experience in this line of work, an atlas is indispensable. Heretofore, however, such works have been out of reach of the profession in general owing to their extremely high price, but with the appearance of this addition to the excellent series of hand atlases, of which it makes part, this difficulty no longer exists. Like the other members of the series, this volume is a marvel of beauty, and all the ordinary lesions and many of the rare ones are depicted with a fidelity of form and color that leaves nothing to be desired. In addition to the plates reproducing the ophthalmoscopic images, there is a small number of colored lithographs of microscopic sections, showing the minute changes attendant on such lesions as glaucomatous cupping, choked disk, etc.

The last plate is a simple pupillometer, consisting of a series of black disks each varying by half a millimeter and intended to be removed from the volume for use, while in an introduction of about eighty pages, the more important principles involved in ophthalmoscopy are laid down.

DIE SERUM, BAKTERIENTOXIN UND ORGAN PRAPARATE. By Dr. pharm. MAX V. WALDHEIM. H. Hartleben, Vienna, Pest, Prague.

THE attempt to bring together and to arrange into a single volume the scattered papers and experiments bearing on the therapy of the serums, bacterial toxins and organic extracts, has resulted in this excellent small volume.

It is unnecessary to detail the subjects treated as the title is sufficiently explicit, but it is to be said that the work has been well done and that for a beginner more particularly much information may be gathered by little effort.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXXIX. NEW YORK, SATURDAY, OCTOBER 12, 1901. NO. 15.

SPECIAL ARTICLE.

THE ENDOWMENT OF MEDICINE.[1]

BY MALCOLM MORRIS, F.R.C.S.,
OF LONDON, ENGLAND.

MR. CARNEGIE some years ago said that the millionaire who dies rich deserves a dishonorable grave and he appears to be earnestly striving to avert such a calamity from himself. His example is being imitated by others who find what Rabelais calls the "pecuniary imposthume" so burdensome as to call for evacuation. Millionaires are vying with each other in giving of their abundance for public purposes. The names of Lord Iveagh, Mr. A. L. Jones, and Mr. Yates Thompson in England, and Mr. Rockefeller, the Vanderbilts, Mr. J. Pierpont Morgan, Mr. Johns Hopkins and many others in the United States will live not only in the mouths of men but in the magnificent foundations which medical science owes to their enlightened liberality.

All here will doubtless agree with President Eliot of Harvard who in announcing the recent gift of a million dollars to the medical department of Harvard University said: "There is no department of the University to which a great gift of this sort could be made with a greater hope of an abundant return. The progress of medicine and surgery during the last twenty years is simply amazing. The triumphs of the physician and surgeon over death and disease are unparalleled in the whole history of the world, but we have as much and more to look forward to and I know no department of scientific research from which greater hope can be entertained than the department of applied biology. Moreover this great gift comes as a reward to one of the most laborious and enthusiastic and hopeful of all the faculties of the University—the faculty of medicine." The wealthy philanthropist could find no better way of using his money for the benefit of mankind than the endowment of medical research; for it is in the growth of knowledge relating to living matter that lie the best hopes for the future of the human race. But the knowledge gained in the laboratory will be, as Falstaff says, like a hoard of gold kept by a devil, unless it is set in action and used for the prevention of disease and the relief of suffering. The endowment of research therefore cannot fulfil the purpose which is intended unless it is supplemented by the provision of means for the practical application of its results. And among the means to this necessary end the chief is the proper education of those who have to apply the results of research.

[1] Address delivered before Johns Hopkins University, Oct., 1901.

Medical education might at first sight appear to concern only those who wish to practise the art of healing. But in reality it concerns even more closely the people at large on whom they will practise their art. If physicians and surgeons are imperfectly equipped for the important functions which they discharge towards the community and the individuals who compose it, both the community and individuals must suffer. Again, if there be not an adequate supply of doctors a large proportion of the victims of illness and accident must necessarily go unrelieved. These are plain facts, so obvious that they do not need to be insisted upon.

It may be said there is no fear of a dearth of doctors or of medical schools and it may be admitted that at the present moment there is in most civilized countries a superfluity of doctors and no want of medical schools. Certainly in the United States you are abundantly supplied with such institutions. Nevertheless it does not need the gift of prophecy to foresee that the time is not far distant when the profession so far from being overcrowded will, unless means are found to prevent such a consummation, tend to dwindle in numbers and also in usefulness while medical schools will undergo a process of deliquescence. It is not that medicine will cease to fascinate minds thirsting with the divine love of knowledge, or to offer a career in which any one of fair ability who is willing to work may find a livelihood. The cause is a purely economic one. Medical education is becoming so expensive that, unless its costliness can be kept down by endowment, it must tend more and more to become a luxury reserved for the rich.

One has only to look backward a very few years to appreciate the prodigious change which has come over the whole system of medical education. When I began the study of medicine thirty-five years ago the arrangements for teaching were of a simplicity that to us in these days seems quite primitive. Except the rooms set apart for practical anatomy and practical chemistry there was nothing whatever in the shape of a laboratory. Histology, such as it was, was taught with the help of a few cheap microscopes down which the more earnest of the students strove for the privilege of peeping from time to time. At the distribution of prizes in one of the leading medical schools of London in 1870 the late Professor Huxley, then examiner at the University of London where the standard was incomparably higher than anywhere else in Europe, complained that even the best students had the most misty ideas on the elementary facts of physiology, because they had not been taught it as they were taught anatomy, that is to say by

direct observation of phenomena and contact with the facts of Nature. But how could they have been so taught when there was, I believe, only one physiological laboratory at the time in London? That laboratory, it may be added, though in a spiritual sense illuminated by the brilliant genius of the men who worked in it, in regard to apparatus and even furniture, it reflected the poverty which was the portion of scientific teaching in those days. And such as it was only a select few of the students took advantage of the opportunities which it offered. Pathological laboratories did not exist and clinical laboratories were not even among the dreams of the future. That this state of things was not confined to London may be gathered from the interesting reminiscences contributed by Sir William Gairdner to the recently published "Book of the Jubilee in Commemoration of the Ninth Jubilee of the University of Glasgow 1451-1901." The distinguished Emeritus Professor of Medicine in the University on the Clyde there says that in "the Sixties the prevailing conception of the requirements of a professoriate were a lecture room (with a chair, of course!), a retiring room, and a few other unconsidered trifles in the way of blackboards, chalk, diagrams, etc."

Now we have laboratories not only of anatomy, physiology and chemistry but of pathology, bacteriology, hygiene, pharmacy, and pharmacology, to say nothing of departments for the practical teaching of obstetrics, surgery and medicine. Then there are the clinical laboratories attached to the various services in hospitals. And in this matter scientific teaching is like the daughter of the horse-leech and is ever crying "give, give!" Now even for an examination apparatus of various kinds is required.

In the old days the medical student got his knowledge from lectures supplemented by the reading of text-books; now he gets it at first hand in the laboratory. This is as it should be. But modern laboratories absorb more money than the most eager alchemist ever threw into the flames of his furnace in the search for the philosophic stone. Vast sums are needed to build and equip and maintain them. Then there must be teachers, and these must be men who give their life to scientific work and who therefore require to be paid at a rate that shall at least keep their mind free from sordid cares if it does not recompense them for the sacrifice of the chances of practice. Moreover they must have assistants, and these also must be paid on a scale sufficient to attract men of the highest ability. Altogether therefore the laboratories absolutely necessary nowadays for the adequate training of practitioners of medicine, are so costly as to make it impossible to maintain them at a proper level of efficiency without external aid.

It may be said that the money should be supplied by the students. The cost of a medical education is already so heavy as to debar many otherwise fitted to adorn the profession from entering it; and as medical science expands education must necessarily become more and more expensive. In some of our London medical schools the funds are to a large extent supplied by the medical staff of the hospital to which they are attached. It is obviously unfair however that this burden should be borne by men who give their services to the hospital without remuneration; and it is clear that, as the burden tends to become heavier, the limit of endurance will sooner or later be reached. On the other hand if the students' fees are to be increased to the degree necessary to support the school, there will very soon be no school to support. It is clear therefore that unless some *deus ex machinâ* comes to the rescue, our medical schools must collapse.

It may be said that there are too many medical schools and that some of them might without disadvantage be allowed to die a natural death. Even if this be admitted, the fact remains that, if the supply of doctors is to be proportionate to the needs of the population, the means of an adequate education must be within their reach. For this purpose there must always be a considerable number of medical schools, and it is self evident that these schools will, under the conditions of modern scientific development, never be self supporting.

The only solution of the problem lies in endowment; and for this we must look to the State or to the pious founder. I read not long ago in a leading medical journal of this country that a distinguished New York physician and teacher had said: "I hold that the State ought to furnish sufficient funds for the adequate and thorough instruction of all pupils in every medical institution already legally organized, and for such others as the increase of population may cause to be established under the regulation of the State." This would certainly be a "large order" for the State to undertake, and I think the taxpayer would be justified in a revolt against such a demand. But that the State should contribute towards the provision of a sound training for a profession whose services it is likely to find increasingly necessary seems to me an incontrovertible proposition. In Germany, in France, in Italy, and indeed in every country in Europe except England, the State takes upon itself a large share of the burden of medical education. And what is the result? England which not long ago was in the van of medical progress is now slowly but surely falling to the rear. There is far more than the question of national pride involved in this scientific retrogression. The want of opportunities for acquiring the skill and knowledge needed for the successful practice of medicine must in no long time have an unfavorable effect on the physical well-being of the nation; it is conceivable that it might even help to bring about its downfall.

It is on this ground that the State may fairly be asked to include liberal grants in aid of medical education in its Budgets. But we want the pious

founder too. While we rejoice to see the stately Temples of Science which have arisen in Liverpool, in New York, in Philadelphia, in San Francisco, here in Baltimore—where if one wishes to see a monument of enlightened munificence he need only look around, we appeal to any millionaires who may be looking for a worthy object of benefaction to think of the claims of medical education. There could surely be no way of applying wealth more useful to mankind than to help to secure the completest possible training for those who are to be the guardians of the public health.

ORIGINAL ARTICLES.

THE INFLUENCE OF THE COLORADO CLIMATE UPON PULMONARY HEMORRHAGES.[1]

BY S. G. BONNEY, A.M., M.D.,
OF DENVER, COLO.;
PROFESSOR OF MEDICINE, UNIVERSITY OF DENVER; VISITING PHYSICIAN TO ST. LUKE'S HOSPITAL.

A COMPLETE discussion of this subject should include the preliminary introduction of certain physiological considerations followed by the collaboration *en masse* of clinical facts.

The physiological interest centers chiefly in the respiratory and circulatory changes produced by the diminished barometric pressure. Relative to this in health, much valuable information has already been advanced. It seems sufficient for present purposes to call attention briefly to the increase in the depth and frequency of the respirations and in the rate and vigor of the heart contractions. From this there results a considerable degree of vesicle dilation, increased chest expansion, greater lung capacity, together with an acceleration of the blood-flow and an equalizing of the circulation throughout the body. The tendency to local stasis or capillary congestion in the lungs is thus avoided.

The peculiar changes in the blood itself incident to the altitude consist in an increase of the hemoglobin and in the number of red blood-cells. It is reasonable to suppose by virtue of these influences that the tendency to pulmonary hemorrhage in high altitude should be distinctly lessened in cases judiciously selected with reference to other considerations. It remains for the correctness of this to be demonstrated ultimately by the established facts of clinical experience, and such shall be the scope of this paper.

In presenting the result of my personal observations it is my desire to refute any prevailing opinion that elevated regions are unsuited for hemorrhages in general. It is my conviction, however, that hemorrhages *per se* constitute neither an indication nor a contra-indication for moderate altitudes. The hemorrhage, let it be remembered, is but one of many outward manifestations of the disease, occurring at any stage of the infectious process due to a variety of causes with widely differing pathological conditions, associated with all manner of concomitant symptoms, and representing but a single component and perhaps comparatively unimportant part of the clinical picture as a whole.

While it will be seen that hemorrhage cases with certain modifications have done exceedingly well in Colorado, it is insisted, nevertheless, that the choice of climate must be made with reference to *all* the several phases and conditions, without especial attention to hemorrhage itself, save under the specific circumstances to be hereinafter described.

My observations are derived from my private work in Colorado during a residence of nine years. I have selected from my list of recorded patients a series of nine hundred cases *seriatim*, which may be said to fairly well represent the character of cases sent to Colorado taken as they come, and who have remained sufficiently long under observation to permit at least approximate conclusions.

I make no effort at this time to classify the cases with reference to physical conditions and prognosis at time of arrival, as such distinctions do not appear pertinent to this inquiry. It should be said, however, that the very incipient cases were but seldom observed and that the great majority belonged to the category of advanced infection. The patients required no admission blanks to gain entrance to Colorado and many are thus included with a prognosis utterly hopeless from the beginning. I have thought it best to embrace even these in the list in order to secure an authentic and established basis upon which to compute further statistics. As briefly illustrative of the general character of the cases I will refer to one of my previous papers,[1] in which it is stated that "out of five hundred and forty-six cases, seventy-one per cent. of the patients arrived in the State with distinct evidence of tubercular infection in each lung and with a total average period of delay following the definite onset of the disease before arrival of over eighteen months, affording abundant opportunity for advanced pulmonary and constitutional impairment."

With many of the cases it has been possible to maintain for prolonged periods a strict supervision of daily life and habits fully equal to that observed in any well-regulated sanatorium. A suitable régime has been quite as closely adhered to here as is possible in the latter institutions, but a tremendous handicap has been experienced from the advanced nature of the cases as a class. A very large number of the list, however, despite extensive infection and doubtful or grave prognosis, I have not been permitted to observe under the best conditions of life or management on account of peculiarity of temperament, habits of dissipation, domestic relations and financial distress. Many have been compelled to practise the strictest economy, others to work daily. Some

[1] Read before the American Climatological Association, at Niagara Falls, June 5, 1901.

[1] "Observations on Pulmonary Tuberculosis in Colorado," Boston Medical and Surgical Journal, September 16, 1897.

have been burdened with family responsibilities and still others have indulged in the most reckless dissipation. It is apparent that this series as a whole comprises an exceedingly heterogeneous class and differs widely from the selected cases representative of sanatorium results. The cases have been conscientiously recorded and the computation of the following statistics has been conducted personally and with as much care and pains as possible. With reference to results obtained I have made two broad classifications, *i. e.*, those who have shown improvement in Colorado and those who have grown worse or died. By improvement I refer to a material lessening of the activity of the tuberculous process as disclosed by physical signs, diminution of cough and expectoration, also of pulse and temperature, with increase of appetite, digestion and weight. It is hardly necessary here to further classify the various stages of arrest. I am frank to admit that I am reporting as improved several who are now dead, but had exhibited a progressive and material gain until suddenly overcome by intercurrent disease, accident or other extraneous and direct causes.

On the other hand several are reported as not improved whose loss following an initial gain is easily attributed to a return East, resumption of work, disobedience of instructions or other indiscretions. In a work of this kind it is recognized that everything depends upon the integrity and authenticity of reports and I have thus endeavored as far as possible to eliminate sources of error.

Number of cases improved.....618
Number grown worse or dead.....284
Percentage of cases improved.....68.5

Generally speaking over two-thirds of the cases coming to Colorado, independent of the question of hemorrhage, but in all stages of advanced infection, may be expected to gain. This is certainly a very large proportion in view of the indiscriminate character of the cases, but furnishes a basis from which to draw further conclusions relative to hemorrhage.

Four hundred and fifty-seven cases are found to have had a hemorrhage sometime during the course of the disease; of these 308, or 67.8 per cent., are reported as improved. It then appears that about one-half of the entire number are hemorrhagic cases, and approximately the same proportion have improved in Colorado as the non-hemorrhagic, each class having about the same percentage of improvement as the entire list. This comparison in itself fails to indicate any specific influence of the climate upon hemorrhage cases in general.

Much of interest and value attaches to the time of hemorrhage relative to residence in Colorado. One hundred and seventy-five cases present the history of hemorrhage as the first symptom distinctly referable to the disease or as supervening immediately upon appearance of cough and beginning loss of weight. Thus about twenty per cent. of all the cases of consumption are found to experience a hemorrhagic onset of the affection. In these the bleeding almost necessarily took place before the development of any very extensive destructive change in the lung. These cases have usually sought climatic relief early and it is in precisely such conditions that an equalizing of the circulation by high altitude should be attended by the best results. It is not surprising, therefore, to find that 127, or over 72 per cent., have done well.

Three hundred and eighty-six, or over 82 per cent., of the hemorrhage cases occurred before arrival in the State, including those with hemorrhagic onset. Of these 253 are reported as improved, establishing a percentage of 65½, which is quite up to previous standards.

Of the 386 with hemorrhage before arrival only 97, or 1 in 4, have suffered subsequent recurrence in Colorado. Among those who did experience a recurrence, but 59 are found to have done well, effecting a percentage of 60. On the other hand, out of 289 with previous hemorrhage and no recurrence 201, or 70 per cent., have shown improvement.

The logical deduction is that among the comparatively small number who do have a recurrence in Colorado of their previous hemorrhage, the chances for recovery are somewhat below the average, while those who do not experience such a return are correspondingly favored with better than average prospects.

It must be remembered that among those with previous hemorrhage and subsequent recurrence, many are included who had a distinct hemorrhagic onset and, although without extensive destruction of lung tissue, had experienced nevertheless a considerable circulatory disturbance from slight causes and who might well be expected early upon arrival, with the usual nervous temperament and erethetic habit common to such cases, to suffer a temporary return.

It is further of interest to note that of the ninety-seven recurrences thirty-four were in individuals who had experienced a hemorrhage within two or three weeks before arrival and in whom it is reasonable to suppose the direct results had not been fully overcome. In fact nearly half of those had their hemorrhage on the train or at the time of starting. Twenty-two of the recurrent hemorrhages in Colorado were in these people in whom the bleeding took place immediately before arrival and the recurrence within a very few days thereafter. It is obvious that such cases should not be embraced among hemorrhages in Colorado, as the specific cause was put in operation before arrival. Should these be excluded, and rightly so, the percentage of recurrences in Colorado would be materially diminished.

On the other hand 47 cases are found to have bled more or less profusely, and often repeatedly so, within one or two weeks before arrival, yet have never suffered a return since residing in the higher altitude.

Seventy-one experienced their first hemorrhage

in Colorado. Of these 33, or 46.4 per cent., have done well. An explanation of the small percentage of improvement is found in the fact that 40 of these were associated with very extensive and advanced infection, such conditions being present as would be likely to occasion hemorrhage anywhere. Thirty-one took place in the midst of a general gain, but in these without exception a distinct external cause could be assigned, and usually improvement was later continued.

Taken altogether, including the initial and the recurrent hemorrhages, 168 have bled in Colorado, 68 very shortly after arrival usually preceded by others immediately before coming. Of the remaining 100 cases 48 are found to have occurred as a result of accident or great indiscretion. The great majority of the balance, 52, took place in the midst of a general decline associated with more or less extensive cavity formation, syphilis or kidney disease, entailing a poor prognosis in any locality.

Of the 168 cases there were 58 easily recognized cavities, nearly one-third of the whole number arriving as advanced cases and usually with a history of a previous attack.

The character of the hemorrhage has been severe and copious in 65 instances, moderate in 103. As a general rule, they are stated to have been considerably more severe and harder to control than any previous attack at or near sea level. Four have been instantly fatal. In 13 death has resulted in a very few days. Twenty-one have survived but one or two weeks. The remainder rallied sufficiently to continue the struggle, only finally in some instances to succumb as a remote result of the loss entailed by the hemorrhage. Many have suffered no permanent ill effects, often rallying from the very alarming attacks and some have exhibited most remarkable improvement following it. Of the latter class fourteen are conspicuous examples.

My conclusions are:

1. That hemorrhage by itself, save with few exceptions, furnishes no criterion upon which to base a choice of climate, the indications for high altitude in uncomplicated and in not too-far-advanced cases being highly imperative independent of this single manifestation.

2. That an exceedingly small proportion of recurrences may be expected in Colorado, although not necessarily reflecting accurately the degree of ultimate improvement secured.

3. That recurrences are more likely to result, and that quickly, in those cases with hemorrhage immediately preceding arrival, and hence the wisdom of a short delay following the hemorrhage before leaving home and unusual precautions as regards rest upon arrival.

4. That primary hemorrhages are comparatively rare in Colorado and usually take place incident to a rapid progressive destructive change in cases already with hopeless prognosis, or as a natural result of some external assignable cause, which under proper régime could be avoided.

5. That hemorrhage, while less likely to occur in Colorado than at sea level, is nevertheless, as a general rule, more severe and associated with greater shock.

6. That the avoidance of hemorrhage, particularly in the early months of Colorado life, demands a most rigid compliance with detailed instructions.

THE TUBERCULOSIS QUESTION.*

BY H. ARROWSMITH, M.D.,
OF BROOKLYN, NEW YORK.

AN adequate consideration of the present status of the tuberculosis question is not to be thought of in the limits of a paper as condensed and superficial as my portion of time allows, and, although the subject has been exhaustively handled by more capable pens than mine, it has seemed to me that there are some points in regard to this great scourge of humanity that cannot be too often repeated or too forcibly impressed on our minds. Even at the present day the laity, and too often the profession, at the dreaded name of consumption are prone to fold their hands and wait for the end, or to perfunctorily commence the administration of some time-(dis)honored remedies and then resign themselves to the will of heaven.

It is fair to assume that to-day probably no one questions the fact that tuberculosis is acquired by the entrance into the organism of the specific germ, which may take place by ingestion, inhalation and inoculation, and probably in this order of frequency. Direct transmission of tuberculosis from parent to offspring has been demonstrated in some 18 instances, but it seems scarcely likely that it occurs sufficiently often to be of practical importance to us.

Bacilli have been found in seminal fluid in several instances, and Goldschmidt has injected weak suspensions of the germ into the vagina of a rabbit immediately after coitus and shortly after a litter had been dropped. On the sixth day, before the embryo had become attached to the uterine wall, more than 500 sections were made of the uterus and embryo. The bacilli were found in every instance inside the cells of the embryo and none were discovered in the uterus or vagina. This is, to say the least, suggestive.

Most cases of direct transmission have been from the maternal side. Armanni succeeded in infecting a guinea-pig with typical tuberculosis by inoculation with the organs of a stillborn child of a tuberculous mother. Lehmann reports the case of an infant of a tuberculous woman dying four days after birth with tubercles containing bacilli in the spleen, lungs and liver. Tuberculosis of the placenta has been studied by Schmorl and Kockel. In three cases observed, bacilli were found in the placenta, but in only one of them in the organs of the fetus. Bar and Renon demonstrated bacilli in the umbilical veins of children born of tuberculous mothers.

* Read before the Associated Physicians of Long Island, Sag Harbor, L. I., June 15, 1901.

Roger and Garnier have observed bacilli in the milk of a phthisical nursing woman. Animals injected with it died of general tuberculosis. Her child, after nursing only two days, died in six weeks with tubercles in the liver, spleen, kidneys and mesenteric glands. There was no appreciable lesion of the breasts.

There has been a great diversity of opinion as to the exact influence of heredity in relation to the development of tuberculosis. Much importance has always attached to the transmission from parent to offspring of predisposition to tuberculous disease. To quote Billings: "In most of the so-called hereditary diseases, that which is transmitted from parent to child is not the disease itself nor its direct specific cause, but some peculiarity of tissues or organs which in the course of development, either makes the person peculiarly susceptible to causes of disease acting from without, or produces disorder itself by excess or defect of structure or function of some particular part. In scrofula and in consumption and other forms of tuberculosis, the specific germ is very rarely, if ever, transmitted, inheritance giving only a special susceptibility to its action."

In an editorial in the *Journal of the American Medical Association,* February 16, 1901, the following statement is made: "The English colony in Madeira was composed almost entirely of persons with tuberculosis, seeking the benefit of its climate. It has numbered about 600 souls, and yet during the entire nineteenth century, only one of the descendants has died of pulmonary tuberculosis, possibly acquired during a residence of several years abroad."

On the other hand, the statistics of the Mutual Life Insurance Company of New York indicate an increased liability to phthisis, where there is a family history of tuberculosis, which may be estimated at 30 per cent., and Squire's researches give practically the same results.

Tuberculosis has been acquired by inoculation in a variety of ways, by tattooing, by the bites of insects, by ritual circumcision, by coitus, by handling infected clothing and utensils from tuberculous patients and by other forms of contact with them. Tuberculosis of the cervical glands has been caused by infection through carious teeth.

As to the rôle of the tonsils, faucial and pharyngeal, as foci of infection, there is great uncertainty. Many authors claim to have seen latent or larval tuberculosis of these organs many times, while other equally careful observers deny their assertions. Goodale found in some experiments that methyl blue rubbed into the crypts of the tonsils was absorbed and carried into the deeper structures, as evidenced by microscopical examination after removal. Wright has recently made some investigations which corroborate these findings, but, curiously enough, in a few instances he found that while these structures can be penetrated readily by inorganic substances, the cocci which were numerous in the crypts could never be found below the mucous membrane. This certainly appears to demonstrate the innate resistance of living tissue to pathogenic germs.

In the matter of infection by inhalation, we have been taught to dread sputum which has been dried and disseminated as dust, but that there is palpable danger in too intimate contact with tuberculous patients, the researches of Flügge, Goldie and others have shown. Plates held before the mouths of patients while coughing, sneezing and speaking have shown the bacillus in notable numbers and they have also remained suspended in the air for considerable time.

The method of infection which is alone capable of adequately explaining all the phenomena is that of ingestion—perhaps, in some cases, a mixture of inhalation and ingestion. A current of air laden with solid particles will naturally deposit them on the first surface upon which it impinges, particularly if that surface happens to be moist. As few people breathe continuously through their noses, a large proportion of the matters suspended in the inspired air is naturally deposited on the posterior wall of the pharynx and thence inevitably carried downward by the act of swallowing. Under normal conditions, the gastric juice has decided bactericidal power, but may not the gastric disturbances which almost invariably antedate a tuberculosis furnish the opportunity for the bacillus to enter the system by impairing the protective capacity of the stomach secretions?

Once having entered the intestines, having been absorbed by the lacteals and conveyed to the thoracic duct, the bacillus is easily disseminated to all parts of the body, and surely all the clinical phenomena of bone, joint, meningeal and visceral tuberculosis find here a logical and satisfactory explanation which is possessed by no other mode of infection hitherto suggested. On this basis it is easy to comprehend how infected foodstuffs may be sources of the gravest peril. The warning is obvious of the risk run by the use of food products which are displayed on the streets of our cities, exposed to the bacillus-laden dust, particularly those which are destined to be eaten uncooked, as fruits and green vegetables. Of late there has been some doubt expressed as to whether the ingestion of the meat from tuberculous animals is really as dangerous as we have supposed. It is claimed that the ordinary processes of cooking render it fairly safe—much more so than raw milk. The comparative immunity of the Hebrew race is said, however, to be largely due to the rigid inspection of the meat used by them. After careful preparation good food is probably often spoiled by contamination by flies which have been in contact with tuberculous excreta.

The sum of our knowledge relative to the antecedent causes of phthisis now seems to be that, given the favorable soil, however produced, and the proper exposure, tuberculosis will result. Precisely what the proper soil is must remain largely a matter of speculation. That a predisposition is

often inherited is unquestionable; that it is, perhaps, as frequently acquired is equally so.

Robin and Binet[1] found in 1,300 tests of the chemistry of respiration in 392 persons, that in all but 8 per cent. of the 162 tuberculous patients included, the exchanges of gases in respiration were far more active than in healthy persons. The results of their researches are tabulated and the averages show that in chronic tuberculosis the carbon dioxide exhaled per minute and per kilogram of the body weight is in women 86 per cent. more than in normal conditions, and in men, 64 per cent. The total oxygen consumed increases in women by 100.5 per cent. and in men by 70 per cent. The oxygen not used in producing carbon dioxide and which is absorbed by the tissues increases in women by 162.8 per cent., and in men by 94.8 per cent. The lung ventilation increases in women by 110 per cent. and in men by 80.5 per cent. As the disease progresses and the lung capacity and the proportion of gases exchanged diminish, the ventilation increases in proportion and thus the excessive activity of the exchanges is maintained to the very last. As the disease yields to treatment and the patient is recovering, this peculiar relationship becomes less and less pronounced. Their researches have extended over seven years and they have studied the respiratory chemistry of forty other diseases, in none of which are these phenomena found in anything like the same degree. They divide the descendants of consumptives into two groups, *i. e.*, those in whom the respiratory exchanges are normal and those in whom they are exaggerated, the former escape tuberculous infection, but the latter are predisposed to the disease. In arthritism, on the contrary, the exchanges are below the normal, which suggests an explanation for the known antagonism between the conditions.

There has been a great deal of aimless speculation and eminently unscientific writing about the pretuberculous state. It seems to me that all of us who have not tuberculosis may be said to be in the pretuberculous state. I fail, however, to see in what the prodromal stage of phthisis differs from that of any other debilitating illness before the characteristic symptoms have appeared. In order to take advantage of every possible chance that our patient may have, it is of course imperative that we should recognize the disease at the earliest possible moment. We have been prone to assume that the absence of the bacilli from the sputum relieved us from any further responsibility, but that this does not necessarily imply a healthy condition of the respiratory tract is evidenced by the fact that in 408 indubitable cases of early tuberculosis Turban failed to find the bacilli in 59.8 per cent., so that in the early stages we are little better off for a decisive sign than before Koch's discovery.

Another condition adverse to early diagnosis is that we rarely have the opportunity of examining our patient at the very inception of his trouble. The onset is so insidious that people are apt to pay very little attention to the slight feeling of debility they experience, and when at last they think it worth while to consult us the evidences of trouble are widespread and much valuable time has been lost.

The administration of tuberculin in the human subject for diagnostic purposes seems to me to be indefensible from any point of view, although I realize that it is a routine procedure with many capable and conscientious men. In a case in which there is a reasonable doubt, is it not better to temporize, at the same time caring for the patient, than to run the risk which, though remote, is none the less real, of adding a firebrand to the latent spark of disease and destroying all his chances? This has happened on more than one occasion. In fact the tuberculin reaction is not unimpeachable as regards infallibility. it occurs with some regularity in syphilitics. Fuerst[2] reports an instance in a hysterical patient in whom injection of tuberculin was followed by a typical reaction, but, strange to say, the same phenomenon occurred later after an injection of distilled water and again after the insertion of an empty hypodermic needle.

The use of the various serums seems to be entirely unreliable so that at the beginning of the twentieth century our main reliance must still be on the clinical history and the physical signs.

Aspiration of the lung has been recommended in doubtful suspected cases, where there are no bacilli in the sputum. The value of our examination will depend very much on the care with which it is made and a judicial appreciation of the weight of evidence.

In the routine examination of patients in whom there is any suspicion of even a tendency to tuberculosis, it is well to commence with a careful consideration of the personal and family history. If heredity be not an important factor, the occurrence of other cases of tuberculosis among a patient's associates (or family) is suggestive of opportunities of exposure. All the possible morbific influences which may be operative in the given case should be sought out and their effect estimated. It has been conclusively shown that density of population bears a direct relation to the development of tuberculosis only second to close confinement, so that we learn that a large proportion of prisoners die of tuberculous diseases—four times as many as people who are at liberty. Practically all cloistered nuns meet the same fate and the mortality from phthisis is terrific among those who spend their lives in laborious indoor occupations. Penury also exerts a powerful influence by depriving the unfortunate poor, not only of the comforts, but of the bare necessities of life. Some statistics compiled in Hamburg show that tuberculosis is only one-half as common in persons whose income exceeds $500 a year as in those who are compelled to live on less than that amount.

As to the actual symptoms on which we may place reliance in reaching a conclusion, I think they may be enumerated in the following order: An insidious perversion of general nutrition, with

varying degrees of gastric and intestinal disturbance, which notwithstanding all the refinements of the analyses of the digestive secretions and products, does not seem to have any distinctive characteristics. Klebs[3] attributes these disturbances to atrophy of the thyroid gland and suggests thyroid medication as a remedy. Directly consequent on nutritive disturbances are impairment of muscular vigor and resistance to fatigue, with progressive chloranemia and loss of weight.

Several writers have attached considerable importance to persistent pupillary dilatation as suggestive of a possible future development of tuberculosis.

A persistent tachycardia which can be laid to no other cause is, I believe, an indication of commencing trouble in many cases. In my opinion and experience, one of the weightiest and most universally observable symptoms, even in very early stages, is some abnormal variation of the temperature. That in itself, if only of a very slight range, without other discoverable cause, would lead me to decidedly more than suspect a tuberculous focus somewhere. A variation of not over a degree, particularly with a subnormal morning temperature even when there is no afternoon rise, is to my mind exceedingly significant, and when in addition there is even a slight elevation after moderate exercise I should consider the diagnosis as practically made. These peculiarities of temperature may sometimes be made out during menstruation when they are not discoverable during the intervals.

I am inclined to question the possibility of there being afebrile cases of tuberculosis; they are at least anomalous and if frequent records were systematically taken would, I believe, almost invariably show material fluctuations. I have at present under my care a patient far advanced in the third stage, whose temperature has never been above normal when I have had the chance of taking it, but I do not believe that such a thing occurs more than once in a man's experience. When there is a persisting abnormal temperature range and there may be a question between tuberculosis and some form of malaria, external applications of guaiacol will sometimes clear up the doubt by relieving the fever of tuberculosis, or leaving that of malaria uninfluenced.

Inspection of the thorax in the early stages is of little value, for ordinarily the changes in external configuration are to be attributed to rather extensive internal changes. On the other hand, a thorax which is below the proper proportionate size and of bad shape, with an unnaturally small vital capacity, is a strong presumptive indication that its possessor is more than usually liable to tuberculosis. Mensuration in itself is of no special help in early diagnosis.

The first deposits of tubercle are ordinarily about or in the walls of the smaller bronchioles and these deposits may be localized or pretty widely scattered. At first they are generally so unextensive as not to influence the percussion note to any appreciable degree. It has seemed to me that I have experienced often a sensation of resistance to the percussing finger, long before I could appreciate any special change in the quality or pitch of the note elicited. The signs made out by auscultation may be slight, but in many instances, if discoverable at all, they are enormously important. The phenomenon of so-called cog-wheel respiration, if found in successive examinations in the same locality, is more than suggestive and the same may be said of any circumscribed alteration in intensity, pitch or rhythm of the respiratory murmur which is independent of other recognizable cause. Any evidence of a catarrhal condition of the bronchioles which is not obviously transitory is diagnostic and with a little care the signs may be elicited when even on a first careful examination they may seem to be absent.

The ratio of basal to apical involvement at the beginning of a tuberculosis is 1 to 500, and therefore our keenest attention should be directed to the apices, far more often to the right than to the left. Frequently auscultation of the anterior surface will be entirely negative and yet in the supraspinous fossa and along the inner border of the scapula we will find what we are in search of. Very often a sharp cough followed, as it always is, by a quick, deep inspiration, will reveal a few fine moist râles which are inaudible on ordinary deep breathing, and the character of the succeeding expiratory sound will also declare itself. In some cases small doses of iodide, 3 to 5 grains t. i. d., for a few days, have often helped to demonstrate conditions, which have been undiscoverable before. Not seldom during menstruation physical signs will become apparent which are absent or indistinguishable during the intervals. Unnaturally clear transmission of the heart sounds without consolidation is often encountered and is suggestive.

Skiagraphy has lent and will lend to a much greater extent in the future, as we become more expert in its application, strong corroborative testimony in doubtful cases; and I believe it will at all events lessen the number of reported primary laryngeal involvements which some of our clinical experts are fond of presenting. Occasionally laryngoscopy will reveal indubitable trouble when other signs are wanting. The anemia of a tuberculous larynx and the peculiar character of the changes in its tissues are unmistakable to the experienced eye even if they constitute the whole obtainable evidence of disease, but I am persuaded that in these cases, if our senses were sufficiently acute, we would almost invariably discover other foci of infection.

As to the symptoms of cough and hemoptysis, we may consider them of importance only when we can assure ourselves by minute examination of the upper air-passages, that they are not of local origin. To recapitulate, we are justified in assuming tuberculosis on the evidence of otherwise unexplained gastric and nutritive disturbances, with persistent tachycardia and fluctuations of temperature, although slight, especially with an increase after exertion—particularly if

the personal history gives a coloring of probability. We may be absolutely certain of our diagnosis if, in addition, the slight physical signs I have mentioned are discoverable, and notwithstanding a history of cough and possibly hemoptysis, we may presumptively discard the probability of tuberculosis if these phenomena are absent.

Cases of basal origin are usually the result of pleural infection. In fact some observers contend that almost invariably pleurisies with effusion, if not traumatic, are tuberculous in character, whether serous or purulent. Any intrapleural effusion which is tardy in clearing up excites our apprehension and surgical intervention should not be delayed unduly. Here microscopical and bacteriological examination of the fluid is of paramount importance.

The prognosis of pulmonary tuberculosis is perhaps the most uncertain matter in the domain of medicine. The site of the original lesion may exert some influence on the course of the disease. Primary basilar involvement is considered much more serious than apical—a left apex lesion seems more apt to clear up than a right. Variations in the morphology of the bacilli and in their tinctorial reactions are said to be of prognostic value, but such distinctions are scarcely of use to us as clinicians practically, as they imply a degree of expertness in laboratory technic of which few men in active practice are possessed.

Michaelis[4] contributes an interesting article on the diagnostic and prognostic value of the diazo-reaction. Its persistent recurrence indicates tuberculosis and its presence in ascites or meningitis points to the tuberculous character of the lesion. It occurs independent of fever, of the number of bacilli or of the amount of the sputum. It is most common in advanced cases and is an unfavorable prognostic; when present, death can usually be expected within six months. Of 111 cases which gave the reaction, 80 died within that time; of 56 where it was absent 3 died. Early hemoptysis is said to be a favorable prognostic, although when accompanied by a pronounced pyrexial movement it is bad.

To attempt merely an enumeration of the various remedies which have been tried in the treatment of tuberculosis would carry me far beyond the time allotted for this paper. It is a sad commentary on our therapeutic knowledge and attainments that to-day the most sanguine clinician claims but a very little larger proportion of cures of tuberculosis from the sum of our modern achievements than the pathologist told us years ago that he found on the autopsy-table of tuberculous lesions apparently spontaneously healed.

Baldwin[5] reports the results of treatment in Trudeau's sanatorium—where the results have been as gratifying as anywhere in this country—1,200 patients were admitted, 900 advanced and 300 incipient cases; 1,176 were discharged, 300 of them absolutely without symptoms of disease. In other words, 68 per cent. of incipient and 11 per cent. of advanced cases were discharged cured. According to various observers, healed lesions have been observed in from 20 to 50 per cent. of all autopsies.

I think I am justified in saying that no form of treatment, no drug that we have ever used, have specifically affected the course of pulmonary tuberculosis in the slightest degree. Osler says: "Arrest or cure of tuberculosis is entirely a question of nutrition and the object of any treatment is so to improve the patient's general condition that he may be able to withstand the influence of the morbific agent, etc."

Without particularizing, we can state axiomatically that the various attempts at serumtherapy have been up to date absolutely inefficacious, and the same may be said of any and all medicinal preparations of which I have any knowledge—indeed, there are some of the latter which I believe have been productive of much harm. Nevertheless the outlook was never so encouraging for the future, nor the probability so strong that eventually this great curse of the human race will be vanquished. The advocacy and ultimate discarding of the various forms of medication are in the right line of investigation and perhaps ultimately by a process of exclusion, we may have left in our armamentarium some few agents of value, when the chaff shall all have been rejected.

The surest way to cure tuberculosis is to prevent it, and this is largely within the province of those concerned in caring for the public health. That the hope of stamping out tuberculosis is not Utopian, is evidenced by the decrease in the death-rate of cities where modern sanitary methods prevail. Thus, in Berlin the deaths have decreased from 3.42 per thousand in 1883 to 2.30 per thousand in 1894; in London from 2.86 per thousand in 1851-60 to 1.83 per thousand in 1895, and similar statistics might be multiplied *ad infinitum*.

The point is that it has been demonstrably possible to diminish the mortality over one-third in the last twenty years and that, too, in many instances, almost against the will of the public, who, especially in our country, resent any and all interference with their freedom of action, even when it tends to their own destruction. I wish to remark here that I believe future results will come mainly through the efforts of such beneficent organizations as the Pennsylvania Society for Tuberculosis and similar associations, whose work in instructing the lay mind as to the reason and reasonableness of sanitary recommendations has been productive of so much good already.

But to return to the domain of the practitioner, there are some matters of personal hygiene and prophylaxis as applied to his individual patients that he can not ignore without being distinctly culpable. Ward[6] made observations in his own house for a period of three weeks during November. He found the mean relative humidity of the inside air was 30 per cent. with an average temperature of 69° F., while the outside temperature was 36° F. with a mean relative humidity of 71 per cent. This shows our average inside air to be drier than that of most desert climates and indicates the extremes to which, as a result of the

refinements of modern luxury, our organisms are subjected. Can we be expected to preserve our powers of resistance under such conditions? Another factor is the utterly irrational way in which most people dress. The time is ripe to start a crusade, for one thing, against the all-wool-underclothing delusion with its potentialities for harm, and endeavor to inculcate some ideas of proper clothing in the lay mind.

Again I believe it to be a most important thing in any given case, whether predisposed to tuberculosis or not, that the patient should be assured of the protection given by an approximately normal condition of the upper respiratory tract. While catarrhal conditions of the nose and nasopharynx never directly "run into consumption," as the laity express it, they assuredly do increase the liability to it. Particularly is this the fact in regard to the various obstructive lesions which induce the necessity of mouth-breathing and especially the lymphoid hypertrophies so often encountered in children. Aside from the discomforts induced locally by these growths, their effect in producing general nutritive disturbances is enormous, which can easily be demonstrated by removal of hypertrophied tonsils and adenoids, in many cases the improvement in general health being so great that the patient is scarcely recognizable after a few weeks. The same thing applies to other forms of nasal deformity causing obstruction. Aside from their general pernicious influence, a specific danger exists in the inviting portals of entry offered to pathogenic germs, particularly to those of tuberculosis, by the enlarged and diseased masses of lymphoid tissue. I doubt if they are often the seat of primary tuberculous lesions, but the researches of Goodale, Packard and others leave little doubt that they have been responsible for many infections of the general system.

In the management of the developed disease there are a few points of which I would like to speak, naturally first of climate. The consensus of opinion of the foremost phthisiologists of today is that the popular ideas of climatotherapeutics are based on entirely erroneous foundations. In other words, there is no specific virtue in any special health-resort and the theory that altitude has any special influence is at last fortunately practically exploded. The indiscriminate prescription of climatic change without due regard to the exigencies of the individual case has probably done more harm, shortened more lives and destroyed more possible chances of recovery among consumptives than ignorance or faulty application of any other remedy that has ever been employed in the treatment of phthisis. In this connection a word about ozone of which we hear so much in connection with the beneficial effects of health-resorts. It is present in atmospheric air in the proportion of one part to 700,000. "The value of its presence would appear to be more an evidence of atmospheric purity than as a disinfectant, as it is absent where injurious decomposition is going on." Thompson as a result of his experiments on the action of ozone and its compounds reaches the conclusions that "ozone is of no value to the tissues, whether inhaled or drunk in fluid preparations, and it may be exceedingly harmful. Ransome and Foulerton[7] have found that ozone in concentrated form had little or no effect on the vitality or virulence of bacteria.

The results of the possibilities of continuous out-door life in the treatment of tuberculosis have been a revelation to us and by them the absurd claims of enthusiasts and self-interested climatologists have been sufficiently answered. While sanatorium life is perhaps the desideratum for most consumptives, there is no reason why practically the same results cannot be reached in many instances without sending them from home, granted that their surroundings are fairly decent. If carried out systematically and conscientiously, I believe this method is applicable to almost all patients and will give them the greatest proportion of chances, but with the present enthusiasm there is certainy a danger that it may be overdone and to be most effective it must be begun in the early stages. It will only discredit this method to apply it indiscriminately to all patients irrespective of each one's special environment and peculiarities. I certainly believe that it offers to us more promise than any plan which has preceded it. I must take this occasion to add my word of praise and indebtedness to Dr. S. A. Knopf for his masterly articles on this phase of the tuberculosis question.

We are all much less sanguine as to the future of serumtherapy in tuberculosis than we were some years ago. There are practically insurmountable intrinsic difficulties in the way of treating specifically such a disease as tuberculosis, for, after all, that which kills the patient is not ordinarily the tuberculous disease itself, but the concomitant secondary infections. According to Petruschky's observations in Koch's Institute,[8] tuberculin is of no value in cases of phthisis with secondary infections—and we practically never see them without—and Kleb's preparations have had entirely negative results.

Harper[9] writes a suggestive article on the administration of urea to tuberculous patients. He calls attention to the fact that carnivora rarely become tuberculous and that gout, rheumatism and allied diseases seem to be really antagonistic to the development of tuberculosis. He failed to obtain growths of the bacillus in meat-broth containing urea, but in his control tubes where it was absent, the germs grew rapidly. He proposes to treat tuberculous patients with a liberal meat diet and with the exhibition of additional urea. So many observers have dwelt on this antagonism between tuberculosis and the uric-acid conditions that there must be some reason for their ideas, and I think most of us must have seen instances in our own experience which seemed to corroborate the impression.

In the symptomatic treatment of tuberculosis there are a few routine procedures against which I desire to enter a formal protest: First, against

the use of cod-liver oil. This may sound heretical, but I am convinced of its truth. It acts as an alterative by changing decidedly the oxidation processes of the system. But, unfortunately, its alterative effects are in the wrong direction, decreasing the perfection of the proteid oxidation and often depriving the unfortunate patients of the single chance of recovery they might otherwise have retained. The free ingestion of it rapidly decreases the urea in the urine and increases the incomplete or imperfect products of nitrogenous waste. The more perfectly it is emulsified, the more detrimental it becomes, because thus it is more palatable and is less likely to produce digestive disturbance and to be therefore refused entrance to the system. The emulsion also favors the absorption of immoderate quantities, thus exhausting the oxygen supply and rendering the suboxidation of the proteid molecule, with all its ill-effect, doubly certain. It disturbs digestion and prevents the utilization of other and more valuable forms of foodstuffs.[10] Second, against the indiscriminate use of opium derivatives and cough syrups, which upset the patient's digestion and nutrition and thus work him incalculable harm. My personal experience with heroin has been uniformly disappointing. Third, against the treatment of the septic fever by the coal-tar antipyretics.

For the relief of cough, for freeing the lungs from accumulated secretions and for controlling the symptoms of pus absorption, we have in intratracheal medication by means of the laryngeal syringe a means of treatment as far superior to gastric medication in practice as it is in theory and whose technic is entirely within the grasp of any man who desires to acquire it. No cumbersome apparatus is required, it is less unpleasant to the patient than the frequent administration of drugs and it does without fail what ordinary medication often misses—it relieves the symptoms we desire to mitigate. But it is in the treatment of the horrible lesions of laryngeal tuberculosis that the laryngeal syringe finds its widest field of usefulness, and here the applications of orthoform, as used by Freudenthal, are of incalculable benefit to the sufferer and often obviate the necessity for the more radical treatment by surgical means, which notwithstanding enthusiastic advocates, proves often absolutely disappointing if not actually injurious.

To those who have the time and facilities to command its aid there is nothing that will give the results, aside from the open-air treatment, and that can be obtained with the pneumatic cabinet. If these two agents can be employed in conjunction, I believe that almost any case can be benefited if seen sufficiently early. Antiseptic inhalations are of great additional utility and while, of course, none of these things have the least specific effect on the bacillus, they do influence materially and definitely the course of pulmonary phthisis as we see it clinically. After daily employment of these methods for more than thirteen years I am convinced that these claims are capable of demonstration and that therefore the cabinet and antiseptic inhalations constitute to-day the most rational and effectual methods of mechanical and medicinal treatment of tuberculosis at our command and when fortified by what is more important than all else—open air and good food—they are as nearly a specific as anything can be.

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180 Clinton Street.

THE PREVALENCE AND TREATMENT OF TUBERCULOSIS AMONG THE POOR.[1]

BY H. L. FANCHER, M.D.,
OF ISOLINE, TENN.

Every year since 1882, when Koch announced the discovery of the tubercle bacillus, tuberculosis has excited an increasing interest. For several years after this wonderful discovery medical men looked forward to the time when Koch or some of his contemporaries would discover a specific for this widely disseminated disease. In 1890 Koch's tuberculin was put upon the market and various specific nostrums and fumigations from the laboratories of the quacks were added. From that time to the present, we have seen some of our most energetic pathologists spending the best years of their lives searching for a cure and a preventative, but the tale remains to tell itself.

Still tuberculosis claims one death in seven. The pulmonary form alone claims in the Greater City of New York as its victims between eight and nine thousand annually, seventy-five per cent. of this number came from the tenement-houses, while only about ten per cent. came from the wealthy. From these statistics we may safely say that from eighty to ninety per cent. of the patients dying of tuberculosis in the City of New York came from the bread-earners. Statistics from other cities show a similar death-rate from this one cause. The City Fathers have become alarmed at these figures, and are preparing to care for their consumptive poor.

If correct statistics could be gotten from the rural districts of Tennessee, I am quite sure it would open the eyes of the most drowsy dreamer. The prevalence of tuberculosis on Cumberland Mountain is simply appalling. You can hardly find a person from the rural districts of the Cumberland Plateau whose family history is not darkened by this dread scourge of humanity. This statement would hardly seem credible when we think of the high altitude, the pure dry air, and the "pine forests liberating an extra amount of ozone," but if you were to go with me into the homes of those poor mountaineers, you would at

[1] Read before the Upper Cumberland Medical Society, at Cookville, Tenn.

once see the plausibility of my statement. They are poorly fed and poorly clothed. They usually have large families and small houses; exposed to all the hardships that a poverty-stricken people are subject to, without anything like sanitation in and around their houses. Their drinking-water usually comes from a little surface spring, situated at the head of a hollow just below their house, which furnishes an outlet for the sewerage of all their premises.

In discussing the treatment of tuberculosis, I would like to quote to you and emphasize the words of Dr. S. A. Knopf of New York. In a paper published in the MEDICAL NEWS of March 9th he said: "Consumption is an eminently preventable and curable disease. It is curable in nearly all climes. All that is needed for the treatment of consumption is relatively good and pure air, good food and plenty of it, the best hygienic and sanitary conditions, and a willingness on the part of the patient to submit himself to the constant guidance of his physician. Consumption is not merely a medical, but also a social disease. Society must come to the aid of the physician. He alone cannot cope with this affliction. If society, if our wealthy citizens, if the many noble men and women, willing and able to help, could only know the life-history of some of these consumptive poor, they would realize what I mean by saying, consumption is a social disease, and they would see at once where their duties lie."

Most of the large cities have equipped special hospitals for their consumptive poor, and Texas and Alabama have purchased and equipped separate farms for their tuberculous convicts and claim that under this system the health of such convicts has improved so much that instead of being an expense, they are turning over to the State annually a handsome profit on the investment.

Massachusetts, New York, Pennsylvania and Michigan have, through their legislative bodies, built State sanatoria for the care of their consumptive poor.

Dr. Pryor of Buffalo said at the second annual meeting of the American Congress of Tuberculosis, held in New York, May 15, 1901, that 14,000 patients die in the State of New York every year of tuberculosis, and that seventy-four per cent. of these he believes might be saved if the correct diagnosis were made in the incipient stages and appropriate treatment instituted. The rich can go to private sanatoria, but the poor must die unless the State makes some provisions for them.

The poor throughout the rural districts of Tennessee need to be taught the lessons of hygiene and sanitation, and one of the best ways to do this is to get our State Legislature to help us build and equip one or two sanatoria, where selected cases may be given proper treatment and taught the lessons so needful to this class of people.

As Dr. Knopf said in the address previously mentioned, "A sanatorium similar to the one in the Adirondack Mountains is not only a healing institution, but also a school of hygiene where the patients will learn from actual experience how to take care of their expectorations, how to protect others from infection and themselves from re-infection, what to do and what not to do in order to get well and remain well."

Until we can get these necessary sanatoria, we must take advantage of the best means at hand, and let every case be a law unto itself. Each system has its virtue, and we should adopt the true allopathic method of taking good from all sources. I think in a great many cases of pulmonary tuberculosis, and especially where only one lung is involved, Dr. Murphy's method of injecting nitrogen gas into the pleural cavity is an ideal treatment. It is a clinical fact proven by Drs. Murphy, Wood and others that when the lung is collapsed, hemorrhage stops, night-sweats occur less frequently, and the general conditions of the patient materially improve.

It has been known for some time that if pneumothorax develops in the course of pulmonary tuberculosis, it will greatly improve or cure the tuberculous area. Pleurisy or pneumonia occurring in the course of consumption will invariably benefit the tuberculous condition. Dr. Loomis correctly states that "these marked improvements are brought about by collapse and immobilization of the lung, that the lung is forced to rest, and rest checks the development of infection in new regions and yet does not interfere with the circulation. It enforces drainage of secondary deposits through the bronchi, approximates the walls of cavities and thus gradually empties them, diminishes the lymphatic circulation and favors the encapsulation and cicatrization of tuberculous areas.

As to the hydriatric treatment advanced by Dr. J. H. Kellogg of Battle Creek, Michigan, it is a very beneficial adjunct to any course pursued, and especially in those cases in which the eliminative powers are weakened.

Open air and sunshine are always necessary. A selected course of tonics is needed in most cases, but as no drug has any special control over the development of the disease, the medicament should be carefully chosen for each individual case.

As to the treatment of tuberculosis of the bowels, which is a very common affection on the Mountain, I have but little to offer. The general rules of hygiene which are applicable to the pulmonary form; nutrients, tonics and digesters are about all the means we have with which to combat this trouble. Alimentation is imperfect and nutrition greatly impaired.

Swimming Pool for Insane Ward.—A building 31x62 feet in size is to be erected at the Pennsylvania Hospital for the insane as a swimming pool for the woman's department. The building will cost $18,000 and is one of the many improvements for bettering the condition of the insane for which this hospital has become justly famous.

THE CROWDING OF CONSUMPTIVES INTO THE MUNICIPAL GENERAL HOSPITALS.

BY WILLIAM RIDGELY STONE, M.D.,
OF NEW YORK.

THE Board of Health of this city is making most praiseworthy efforts to check the spread of tuberculosis, but despite their meritorious work they have evidently overlooked one fruitful source of infection.

The municipal hospitals of New York are now crowded with cases of tuberculosis in various stages. Most of these patients are of the uneducated classes, totally oblivious of their condition and unable to understand that they are a menace to their fellow citizens.

In one of the wards of a municipal hospital having the capacity of twenty-eight beds, there are assigned more than forty patients. More than twenty of these patients have been shown to be tuberculous. In the other medical wards of the same institution there are from ten to twenty such patients. In spite of a most efficient corps of nurses and orderlies, it is impossible to make these unfortunate sick understand the necessity of complying with rules laid down for the prevention of the spread of this dread disease. They will not use the sputum-cups provided for them, but most often expectorate upon the floors of the wards, upon the bed-clothes or into the registers set into the floors. These latter places are their favorite cuspidors. The result of this carelessness is most evident. The sputum is quickly dried by the hot air and then blown into the air circulating about the wards, to be inhaled by all the other patients and attendants. To one at all familiar with the manner of the spread of this disease, the condition will seem criminal. The patients in the wards are all in a condition of lowered vitality and are thus ideal hosts for the invasion of the tubercle bacillus. That this is true, the following facts will easily show:

Case I.—A strong, hearty, once robust truckman was admitted to one of the medical wards last winter suffering from rheumatic fever. His chest was perfectly normal; there was not the slightest cough present. The rheumatic fever was quite intractable and the attack lasted about six weeks. After being out of bed for a while, he was about to be discharged from the hospital, when he was taken with a severe chill, headache, nausea and vomiting, and diarrhea. His temperature, pulse and respiration rose above normal, so that he was forced to go to bed. The following day he developed bronchitis and other symptoms which suggested typhoid or some such continued fever. A few days later his sputum was examined and the tubercle bacillus was found present in large numbers. In about six weeks he died. Autopsy revealed the cause of death to be general miliary tuberculosis. No other evidence of lung involvement could be discovered.

Case II.—Patient, male, between thirty and forty years of age. Admitted to medical wards complaining of rheumatism in left ankle. Examination showed the case to be one of probable gonorrheal arthritis. Heart and lungs were normal. For four or five weeks the patient's ankle was treated by hot-air baths, with marked improvement. At this time he seemed to be in excellent general health, when one day he was taken with a severe chill, headache, nausea, and pain in the side. His temperature, pulse and respiration arose above normal. Physical examination showed consolidation of the left apex, and the case was thought to be one of lobar pneumonia. The temperature continued high and the crisis was awaited. At the end of two weeks no fall of temperature taking place, the sputum was repeatedly examined and at last the diagnosis of tuberculosis was confirmed by the presence of the tubercle bacillus. Six months later the case came to autopsy, showing tuberculous cavity formation and other such involvement.

Case III.—Child, nine months old. Mother was admitted to the hospital in the seventh or eighth month of pregnancy, complaining of rheumatism in her left knee. From an examination of the vaginal secretion, the probable diagnosis of gonorrheal arthritis was made. The examination of her thorax was negative. Various treatments were given her without relief of the arthritis. She came to term and was delivered of a large, healthy female child. After the period of her puerperium she was sent back to the medical wards, where she remained for six months. Finally, operation was deemed advisable and she was sent to the surgical wards. All this time her child seemed perfectly well. Shortly before the mother was operated upon, the child became fretful and irritable. It soon lapsed into a semiconscious condition and then developed symptoms of tuberculous meningitis. In about a week's time the child died. Necropsy showed tuberculous meningitis and general miliary tuberculosis.

These three cases are reported to show the alarming conditions of affairs which exist in the very locality where one would least suspect it. The writer has witnessed nine such cases in his own personal experience and has been able to collect as many more. Besides the cases among the patients several female nurses and many male orderlies have during the last two years been forced to leave one of the largest public hospitals in this city, and, in fact, in this country, because of pulmonary tuberculosis contracted while on duty in the medical wards of the same institution. Furthermore, during the same period of time, two of the medical attendants have become infected by the tubercle bacillus.

Many of the tuberculous patients are perfectly able to be out of bed and about the hospital grounds, but, unfortunately, in the majority of instances they cannot be discharged, because they are destitutes. They must be accommodated with beds, and inasmuch as there are other patients less able to sleep away from the overcrowded medical wards, the consumptives are sent

to sleep in the vacant beds of the surgical wards. Here there are cases recently operated upon or recovering from the debilitating effects of operations. These patients are subjected in their low state of vitality to the easy possibility of tuberculous infection, and such infection has taken place.

There can be no question as to the seriousness of placing tuberculous patients in general medical wards under such conditions. The city or community owes it to individuals that they be better taken care of. Many a poor patient suffering from disease can become a useful citizen. And even though the municipal Board of Charities hold poverty to be a crime, the punishment that they are meting out to these unfortunates is entirely too severe. It would seem that the ancient barbaric idea of the lethal chamber were once more to come into vogue. Should one deliberately place into the food of another the germs of typhoid, Asiatic cholera or what not, would he not be punished as a malefactor? Yet the municipal authorities place patients in hospital wards the air of which is pregnant with the germs of tuberculosis.

TUBERCULOUS OTITIS MEDIA, MASTOIDITIS AND MENINGITIS IN AN OTHERWISE APPARENTLY HEALTHY ADULT. BRIEF REPORT OF A CASE.[1]

BY JAMES FRANCIS MCCAW, M.D.,

OF WATERTOWN, N. Y.;

OCULIST, AURIST AND LARYNGOLOGIST TO THE CITY HOSPITAL AND TO THE JEFFERSON COUNTY ORPHAN ASYLUM; FELLOW OF THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY, ETC.

TUBERCULOSIS, on account of the widespread interest which has been manifested for several years by the medical profession in the endeavor to check its ravages, the high mortality and the great importance of an early recognition, especially in those cases affecting the middle ear and its adnexa, make it of interest to us, not only as physicians, but as otologists. The case I have to report to this Society is of unusual interest, clearly exemplifying the error in diagnosis and treatment which is apt to be made in cases where mixed tuberculous and pyogenic infection is present.

In this case was it made especially difficult, from the fact that the patient was in deep stupor when seen, and my advice had to be given, based entirely upon the history and physical examination. On account of the findings and the apparent demand for immediate surgical interference, I doubt if I should have examined the secretions for bacilli had means been available, for nothing was found in the history or in my examination at that time which suggested to me the probability of a tuberculous process.

The following notes of the case, with the findings at the autopsy, wil[1], I trust, be of interest:

W. H. W., male, adult, forty-five years of age, was seen by me in consultation on December 11, 1900, when the following history was obtained. His mother and father have always been healthy; are still living at an advanced age. There are two brothers and one sister, who are living and healthy. The patient suffered from measles when a child. At the age of twenty-five years had typhoid fever; since then has enjoyed perfect health, attending to his business, that of a mechanic, regularly. About one year ago, without apparent cause and only the slightest suspicion of pain, a thin discharge made its appearance in the left ear which was given little thought and allowed to take care of itself. From time to time after this, at intervals of one or two months, he suffered attacks of pain in and around the ear, followed by an increased amount of discharge and relief from his symptoms. During these exacerbations there was sensitiveness to pressure and occasionally slight swelling about the ear, especially behind it. His family physician told me that up to the beginning of his last illness he had noticed little change in his physical condition. His present trouble began seven weeks prior to my seeing him, with what was supposed to be an attack of influenza; sore throat, nasal discharge, headache and temperature about 100° F. He was confined to his home for several days, after which he resumed work and was able to continue nearly two weeks, but during this time was not well, suffering from anorexia, occasional vomiting, persistent headache and general malaise. About this time he had one of his attacks of pain and sensitiveness around the left ear, which compelled him to remain in bed and the usual hot poultice was applied. In twenty-four hours there was an increased discharge of pus with complete relief of pain. Following this he gradually grew worse with exacerbations of pain and intervals of relief, loss of appetite, constant headache, an irregular temperature, gradual exhaustion, and for the last week, remained in a drowsy condition, but from which he could be aroused and would answer questions; this changing to a deep stupor twelve hours before I saw him.

Examination.—Patient was emaciated, face of an ashy gray color, pupils equally contracted and no paralysis detected. He could not be aroused from his stupor, but responded to a stimulus. Pulse 58, temperature 102° F., respiration 36. A slight swelling was observed behind the left ear over the mastoid. Pressure over this area elicited pain; shown by the patient's attempt to remove my hand. There was a small amount of foul-smelling pus in the external auditory canal, the membrana tympani almost completely destroyed and only the head of the malleus remained. The tympanic cavity was filled with granulation tissue and pus, with perceptible bulging of the postero-superior canal wall. No glandular enlargements were observed.

It seemed clearly evident that this patient was suffering from an intracranial involvement following a chronic otorrhea, and it was thought that cerebral abscess was the most probable diagnosis. He was sent to the hospital, prepared, and the following operation done the same afternoon.

[1] Read at the seventh annual meeting of the American Laryngological, Rhinological and Otological Society.

The middle ear was curetted and granulation tissue removed, flushed out and the canal packed with iodoform gauze. The mastoid was opened and found completely excavated, the space being filled with granulation tissue and broken down caseating material. There was very little pus found and this was in the region of the antrum. The destruction of bone was widespread; the caries extending upward and forward into the root of the zygomatic process, forward to the middle ear; posteriorly into and between the tables of the occipital bone and inwardly destroying the wall of the sigmoid sinus and the inner table of the skull. All granulation tissue and carious bone was removed. This exposed the wall of the sigmoid sinus and meninges over an area about 1 inch by ¾ inch. These were very much thickened and everywhere studded with small typical miliary tubercles. There were several caseating patches on the wall of the sinus which was, however, still pervious. At this juncture the hopelessness of the case being recognized, the wound was cleansed, packed with iodoform gauze and a large antiseptic dressing applied. The patient died twelve hours later. At the postmortem examination the lungs, liver, spleen and kidneys were found free of tuberculous infection and the mesenteric glands not enlarged. Examination of the head was not allowed. Microscopical examination of scrapings from the middle ear and mastoid demonstrated the presence in abundance of tubercle bacilli and streptococci.

A very pertinent point, and one of the greatest importance in these cases, is that of etiology, for upon our correct estimate of the causal factor depends the ultimate result of treatment. In cases of mixed tuberculous and pyogenic infection in an otherwise apparently healthy adult, we are, I think, apt to be misled in the masking of the tuberculous by the suppurative process. Especially is this true if the patient is seen late in the disease.

The question which suggests itself to me in connection with this case as of greatest interest is, Was this a case of secondary tuberculous otitis media in which the primary focus was overlooked, or was it primary tuberculosis of the middle ear and mastoid with subsequent pyogenic infection?

In the light of recent investigation, tuberculous disease of the middle ear as a secondary involvement is not an infrequent occurrence. This view seems to have been accepted by most observers. On the other hand, the frequency of primary tuberculosis in this region is still in doubt. Milligan in a paper read before the Sixth International Otological Congress states: "In my experience primary tuberculous lesions of the middle ear and adjoining mastoid cells are comparatively common, especially among the children of the poorer classes." In a paper before the New York Medical Association in 1898, Oppenheimer takes the opposite view and says, "The primary form is rarely observed, and then, from the extreme difficulty of eliminating the presence of tuberculous deposits in other portions of the economy, it becomes a matter of hesitancy to decide as to the diagnosis being essentially accurate." While we hesitate to accept either of these views as representing the weight of opinion, the evidence which we have been able to gain in reviewing the literature at our command, together with our clinical experience, does not bear out the views of Milligan, that primary tuberculosis of the middle ear is of comparatively common occurrence.

The observation and clinical experience of most observers go to show that it is comparatively infrequent, but does occur. Recognizing the difficulties in arriving at a correct diagnosis in this class of cases, it would seem that in the light of the clinical history, the findings at the time of operation, the microscopical findings and the subsequent postmortem examination, we had here to deal with a case of primary tuberculosis of the middle ear and mastoid. My only excuse for operating was an error in diagnosis, for the case was beyond help.

In conclusion, I will add that could we get these cases early, before too much destruction of tissue has taken place, they would seem to offer some hope of improvement from radical surgical interference, with subsequent supporting treatment and proper climatic environment.

THE TUBERCULIN TEST: CASES IN WHICH IT SEEMED JUSTIFIED AND DECISIVE.*

BY W. E. CASSELBERRY, M.D.,

OF CHICAGO;

PROFESSOR OF LARYNGOLOGY AND RHINOLOGY, NORTHWESTERN UNIVERSITY MEDICAL SCHOOL; LARYNGOLOGIST TO ST. LUKE'S AND WESLEY HOSPITALS, ETC.

IN an experience the trend of which is largely toward the upper as well as the lower respiratory tract, it should be one's constant effort to establish the real diagnosis in the earliest demonstrable stage of pulmonary tuberculosis. This infection, when present in a latent form, during a slow and insiduous onset and during periods of partial arrest, by impairing the general vitality predisposes to other and more conspicuous complants, prominent among which are catarrhal conditions of the upper respiratory tract. With an irritable throat, a hacking cough, a tendency to hoarseness and an inclination to rhinitis the patient of this class is often ready to believe and sometimes even to insist that he has only "throat trouble" or "catarrh." To demonstrate in such a case an unmistakable underlying tuberculosis in the earliest, perchance, remediable stage, is to render immeasurable service. Others, again, who may be suffering from affections actually limited to the throat or from non-tuberculous bronchopulmonary conditions, are not infrequently in constant dread of tuberculosis and demand of their consultant a positive and speedy opinion which shall either confirm their fears or ease their troubled minds. To announce tuberculosis even ten-

*Read before the American Climatological Association, June, 1901.

tatively to such a patient when in reality it does not exist is perhaps to work a great and irreparable injury.

One meets with no inconsiderable number of patients in whom it seems of paramount importance to exclude positively tuberculosis. It is conceded that to this end, in the majority of cases, a consideration of the symptoms and of the physical condition is entirely adequate, yet in an appreciable minority this evidence because of its scantiness and of possible variations in its interpretation is not conclusive, and conversely the typical, steadily-progressive case of pulmonary tuberculosis may be gauged by a tyro, while the atypical case by reason of minuteness of foci of infection, diminished virulence, increased resistance, favorable environment, latency, fibroid inclusion, arrest, or confusion with other pathogenic infections, may leave an uncertainty in the mind of the expert.

There is a prebacillary stage in the sense that the sputum examination may be negative without disproving the existence of tuberculous infiltration. Confusion arises between the normal relative dulness and harsher respiratory murmur of the right infraclavicular region and the slightest signs of initial tuberculosis at that apex. The temperature when other symptoms are obscure is not always decisive and would best be observed over a period of weeks, even months, if one would attach to it a positively diagnostic import. Subacute inflammatory attacks in the upper respiratory tract, influenza and its after-effects, empyema of the nasal accessory sinuses, prolonged convalescence from acute pleuritis or pneumonia, and the primary and secondary stages of syphilis are the conditions which I have in mind as simulating for a time the unpronounced tuberculous febrile reaction. This is especially true when these affections occur in individuals of relatively light weight, deficient nutrition, sedentary life, poor thoracic development and adverse hereditary tendencies. And then there are prefebrile, interfebrile and postfebrile periods in which the tuberculosis, supposedly for the moment in a state of inactivity, fails to register above 99° or 99.5° F., which does not exceed an occasional maximum normal. There are persons in varied states of simply impaired health or in the midst of an exhaustion incidental to a strenuous life whose afternoon temperatures reach that point.

So also with the rapidity of the pulse. When there is progressive activity of the infective process the resulting toxemia quickens the heart, but in intermediate periods and in latent tuberculosis the pulse-rate may not rise above 80. Stress has been laid upon the inalterability of the rapid pulse-rate by position and the characteristic sphygmographic tracings,[16] but one would expect these also to vary in accordance with the degree of activity, as does the rate itself. Attention is also called to the fact that the arterial pressure in tuberculosis is low, as it is in other forms of anemia, but that blood examinations, with special reference to the low specific gravity of chlorosis, while not an unerring guide, may aid in differentiating the anemias.

Therefore, while it is not contended that the fallacies herewith enumerated are of very frequent interposition and while it is admitted, even urged, that the conclusiveness of the customary methods of examination can be broadened by superior skilfulness and a keen appreciation of certain of the finer phases, such as skodaic tympanitic apical resonance, a heightened pitch of the prolonged expiratory murmur, the relation of height to thoracic perimeter,[1] Roentgen-ray photography, etc.; nevertheless it happens from time to time that cases present themselves in which it is impossible to assert the presence or absence of pulmonary tuberculosis despite a conscientious resort to all of these means, and in them it would seem that the careful injection of tuberculin as a test is both justifiable and decisive. I say justifiable because notwithstanding the commendations of all who have recorded a practical use of the test, including B. Fränkel,[2] Trudeau,[3] Beck,[4] A. C. Klebs,[5] Otis,[6] G. W. Webster,[7] Whittaker,[8] Anders,[9] and numerous others, there is still an aversion to the deliberate injection of the organic toxins of a pathogenic organism, such as the tubercle bacillus, an aversion which by laymen is based upon the mere uncanniness of the idea and by physicians upon the double apprehension that tuberculin may carry virulent tubercle bacilli and that its injection may generalize or re-excite a previously circumscribed, quiescent tuberculous deposit.

These apprehensions have been definitely answered anew by B. Fränkel,[17] who affirms that the tuberculin of Koch is heated in a water-bath to a consistency of one-fifth its volume and then filtered, that therefore it can contain no living thing. The fear of generalization and re-excitation he ascribes solely to the observation that during the early use of tuberculin as a cure dissolution was apparently hastened in certain advanced fever stricken cases, but now, by reason of the many thousand of test doses which have been given without detriment, he holds it proven that the careful application of the tuberculin test can result in no harm.

In the midst of an undue conservatism the decisive value of this test was first forcibly impressed upon the writer by the following case:

Case I.—Mrs. J. A., age 35 years at first examination in 1890; weight 90 lbs.; height 5 ft. 4 in.; anemic, persistent cough, expectoration negative regarding tubercle bacilli; afternoon temperature 99° F.; never above 99.6° unless having acute rhinobronchitis; pulse 90 to 110, weak and compressible; pronounced hypertrophic rhinitis, follicular pharyngitis and laryngeal irritation; chest emaciated, slightly pigeon-breasted, narrow at the apices, periphery 26½ in. Respiratory murmur at left apex approaches bronchovesicular, percussion resonance impaired, but these signs then so slight as to be noted with a question mark. They had become more pronounced in 1892 when also the murmur over the right infraclavicular

and mammary regions lacked breeziness and strength. Certain features were absent, but a provisional diagnosis of partly latent tuberculosis seemed reasonable. The following winters were passed at Colorado Springs, Col.; Asheville, N. C., and Las Crucis, New Mexico, where skilled physicians concurred in the diagnosis. The physical signs did not progress and later the disease was supposed to be "arrested." About 1895 certain neurotic symptoms appeared, hysterical aphonia, high-pitched voice, twitching of the facial muscles, leucoderma and edematous ethmoiditis. A few nasal polyps were removed in 1896 with the comment that these were unusual in tuberculosis. Soon, during an attack of acute rhinobronchitis with digestive derangement, irregular asthmatic symptoms developed which further clouded the original diagnosis. About this time, during my temporary absence, Dr. Boomer injected tuberculin and later I repeated the test, both times without reaction. The final diagnosis is bronchial asthma and pulmonary fibrosis, both of mild degree. At present all symptoms are in abeyance except cough and malnutrition. Weight reduced to 81 lbs.

Case II.—Rev. H. R. O., aged thirty years, well nourished, thick-set and of good color; loss of energy, persistent morning cough and mucopurulent expectoration for nine months; afternoon temperature 98.4° to 99.2° F.; pulse, 80. Three negative sputum tests by Winnepeg Government laboratory and several indecisive physical examinations. Resonance and vesicular murmur at right apex impaired, but scarcely more than the relative difference. Also dulness over a limited area at the left base. No râles. Skiagraph inconclusive. Wants a positive opinion on which to base action regarding choice of climate and pastorate. Tuberculin, .003, caused little reaction, but .006 at 4 p. m. sent the temperature to 101° F. by 11 p. m., together with malaise and chilliness.

The next two cases are of special interest aside from the negative tuberculin tests.

Case III.—Mr. F., aged thirty-two years, weight 137; height 5 ft. 11 in.; temperature 98.4° F.; pulse 65. Always anemic. Felt well till two weeks ago. Then confined to bed two days with cough and pain in right side; at business since, but conscions that right lung fails to inflate. Inspection shows right diminished and left exaggerated expansion, but no interspace retraction, bulging nor adhesive collapse of side. Respiratory murmur over whole right lung deficient, distinctly tubular, but with a light vesicular character when forced, as if adequate air failed ordinarily to enter the lung. Vocal fremitus intensified toward the base. Resonance impaired but nowhere flat or decidedly dull. No râles or creaking. Aspiration negative. No tumor or cause of occlusion of main bronchus. Probable diagnosis, restriction of expansion from thickened and adherent pleura following pleuritis. He applied chiefly for an opinion concerning tuberculosis and willingly submitted to the tuberculin test, which was negative.

Case IV.—J. E. T., aged forty-one years; height 5 ft. 9 in.; weight 128; former weight 150. Temperature 99.6° F.; pulse 96. Had syphilis twenty years ago, Cough and right pleuritic pains for two years. Murmur over right lower lobe elicited only by forced inspiration, weak, distant, not bronchial and with subcrepitation like the creaking of thickened pleura. Resonance impaired but not flat, no fluid, fremitus increased. Sputum negative. Repeated tuberculin tests negative. Rapid amelioration of cough, pain and dyspnea under potassium iodide. One year later, weight 144, pulse 80.

Other instances in which the test proved of value include positive reactions in two cases of early laryngeal tuberculosis (Cases V. & VI.) in which the pulmonary involvement was so slight as to be doubtful. In one the disease progressed but slowly, the test induced submission to suitable treatment, and the patient still survives, well nourished, of good color, fair strength, pulse and temperature normal, larynx cicatrized, but with cough, hoarseness and an infiltration of the larynx. A few tubercle bacilli have since been found in the sputum.

Case VII.—H. E. O., aged twenty-three years, but youthful in development, height 5 ft. 11 in.; weight 125 lbs.; pulse 99, temperature 100° F. Two sisters affected by tuberculosis. He applied for an opinion while suffering from an acute laryngobronchitis. Chest flat and small, shoulders sloping. Murmur at apices deficient, puerile and jerky. After a few days his temperature and pulse had regained the normal. Sputum examination and tuberculin test both negative. He remains well now, two years after.

Case VIII.—Mrs. W., a physician's wife, in whom hypertrophic rhinitis and laryngotracheitis had long been permitted to mask an apical tuberculosis. Temperature 99.4° F.; pulse 79. The positive reaction of the tuberculin test proved sufficiently convincing to induce a correct mode of treatment. Tubercle bacilli subsequently found.

Case IX.—Dr. W., a young woman hospital interne, who by study and confinement had lost flesh, strength and color and in whom incipient tuberculosis was suspected by her colleagues, because of cough and deficient respiratory murmur, was given assurance by a negative tuberculin test by which relinquishment of position was avoided. Recovery ensued through better care.

I have used the test satisfactorily in still other cases, but those described represent conditions in which it proved an essential aid to prompt and precise diagnosis, therefore seeming especially justified. Other circumstances under which it was proposed as suitable, but was rejected by the patients, mostly through interference by other physicians, include a case of hemorrhage, possibly pulmonary but lacking in positive physical signs, one of early circumscribed dry pleuritis in the person of a young physician whose life might have been saved by a timely demonstration of tuberculosis, another of circumscribed dry pleu-

ritis of one month's duration, with pain and friction sounds, all of which disappeared in a week under counter-irritation and sodium salicylate, leaving the fundamental cause in doubt, and one of tuberculous family history, with rapid pulse and normal temperature, with ratio of chest perimeter to height and corpulence reduced, but without other rational or physical signs except slight cog-wheel respiration and perhaps a trifle more than relative dulness at the right apex.

The test quantity of tuberculin is usually stated at .005, although the first dose should be less in order to provide against a supersensitiveness or extreme debility of the patient. In this precaution lies the element of safety. The fact that hypodermic syringes are not usually graduated in the metric system has deterred some from using the test. My method has been to prepare afresh at each injection a 2½-per-cent. aqueous solution of Koch's old tuberculin of which 1 minim, representing approximately .0015, may be the initial dose for a debilitated person or 2 minims representing .003 for one of good size and strength. Failing to obtain a positive reaction, the test is repeated after three days, being trebled in the first instance, that is, 3 minims injected representing .0045, or doubled in the second instance, that is, 4 minims injected representing .006. Thus a conclusion is reached by two injections. The reaction consists of a rise of temperature of about two degrees in from five to twenty-four hours, supplemented usually by malaise, slight chilliness and increased cough, which all subside within twenty-four to thirty-six hours.

Is the tuberculin test always decisive? If one were compelled to answer by an unqualified "yes" or "no," it must be admitted that there are variable factors, such as special susceptibility, exceptional resistance, habituation to toxins, and even a close similarity of other pathologic processes to tuberculosis, which are capable of precluding absolute accuracy or results. Since Koch's description of a typical reaction in himself by an injection of .25 it is known to be merely a matter of sufficiently large dose to cause any person, either normal, indifferently ill or tuberculous, to exhibit a characteristic general reaction. In the non-tuberculous as a rule the dose must considerably exceed .01, while the special affinity of tuberculin for tuberculous tissue causes a reaction to be elicited by a dose under .01, usually .005 or less. It is conceivable that in exceptional instances a natural supersensitiveness toward tuberculin might be found just as certain persons are extraordinarily impressionable to cocaine, turpentine, quinine, etc.; but, while such a heightened susceptibility might underlie a very small percentage of errors it cannot be made to account for eight[10] or nine[11] per cent. of reactions, said to have been produced in healthy persons. The most reasonable explanation of this large discrepancy lies in the recollection that autopsies disclose previously unsuspected foci of tuberculosis in even a larger proportion and that the bulk of the eight or nine per cent., therefore, were probably tuberculous. Practically heightened susceptibility is less apt to vitiate the results, for the reason that the test with reference to pulmonary and laryngeal conditions is needed only when it is a question of incipient, latent or unpronounced tuberculosis in which the patient, not being habituated to large quantities of the toxin already generated in the body, reacts to quite small test doses. For the same reason it is readily appreciated that in advanced tuberculous toxemia reactions are excited only by large doses, with correspondingly lessened safety and dubious results. In such cases the test is not commended and should be but rarely required.

The course of events in the limited series of cases herewith described tends to support the decisive character of the test, but a demonstration from any human statistics is obviously impossible. Verification by autopsy is the only universal proof, hence the value of bovine records. The Illinois State Board of Live Stock Commissioners[12] in a synopsis for the year 1899 shows the smallest percentage of errors yet attained. Of 3,655 cattle officially tested, 560 were condemned, of which all but 8 were found tuberculous at a careful but ordinary macroscopic autopsy, and of these 3 had given only partial reactions, thus reducing the actual failures to 5 or less than one per cent. Eight other cows which had failed to react to tuberculin were also killed on account of actinomysis, mammitis, etc., and found free from tuberculosis. The latter is a small number, but as far as it goes it tends to substantiate the negative value of the test. But it is argued man suffers from other diseases, not present in cattle, which are said to react to tuberculin, notably syphilis and lepra. Additional evidence that this allegation concerning syphilis is correct has just been presented by E. A. Otis.[14] It may cause no local reaction in visible syphilitic lesions. Fränkel[15] refers to a case which concerned the diagnosis between syphilis and lupus of the nose in which tuberculin caused a general but not a local reaction. The local lesions subsequently healed under potassium iodide and the syphilis proved to be complicated by pulmonary tuberculosis which explained the systemic reaction. Tuberculosis exists not rarely in conjunction with syphilis, yet the proportion of reactions in syphilis seems too large for this explanation to be complete. One must, therefore, otherwise exclude syphilis in case of positive reaction. An imperfect reaction is said to occur in certain cases of sarcoma and carcinoma, but the same liability to the co-existence of tuberculosis should be remembered. Lepra is closely related to tuberculosis and a reaction in it, which is said to occur, would seem not unreasonable.

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MEDICAL PROGRESS.

Epistaxis.—In severe cases of hemorrhage from the nasal mucous membrane too little attention is paid usually to the fact that the blood is in nearly all cases coming from a very small area and, if this can be located, direct application of pressure or a hemostatic agent will be amply sufficient to control it. T. K. HAMILTON (*Inter. Med. Jour.*, Aug. 20, 1901) deprecates the general use of posterior and anterior plugging of the nares on account of its difficulty, its annoyance to the patient and the danger of sepsis from the putrifying blood-clots. "Bleeding, uncomplicated by rhinal disease, is almost always from the artery of the septum, near its anterior portion." Direct examination with a good light usually discloses the offending point. A piece of gauze or cotton soaked in antipyrine or adrenalin and directly applied is frequently sufficient. If plugging is necessary a long single piece of gauze, dry or soaked in the above solutions and applied from the anterior nares, is better than posterior and anterior plugging, but, if the latter in extreme cases becomes necessary, the cord should be passed through the nares by means of a catheter rather than any instrument. To arrest arterial hemorrhage the galvanocautery is by far the best treatment.

Bacteriology of Gangrenous and Fetid Suppurative Processes.—During the past few years much attention has been directed to the study of anaerobic species as the causative agents in gangrenous and fetid suppurative conditions. So essential have anaerobic methods become that little value is to be placed upon bacteriological investigation into these conditions which does not include anaerobic with aerobic study. In studying appendicitis, postpartum suppurative conditions, genito-urinary infection, purulent otitis, pulmonary gangrene and putrid pleuritis, EDWARD RIST (*Ctlblt. f. Bak.*, Sept. 10, 1901) has availed himself of anaerobic methods and never in any one of these conditions has he examined fetid pus without finding a number of anaerobes present. Artificially cultivated these cause gas formation and putrefaction. He believes that the causative agents of gangrene are anaerobes, since these cause the necrosis of living tissue and produce toxins giving rise to systemic symptoms. As much of the work which has been done in infective conditions has been carried on only under aerobic methods, he believes that the prevailing theories with regard to many of these are open to grave doubt.

Chronic Intestinal Obstruction.—The symptoms present are constipation, eructations, tympanites from gas above the obstruction, diarrhea alternating with constipation, colicky pains, writes D. S. HANSON (*Pediatrics*, Oct. 1, 1901); as obstruction becomes nearly or quite complete, vomiting supervenes. It is surprising how well a child will do when the intestine is reduced to a sixth or an eighth of its normal diameter. In cases of long standing with marked obstruction, the fluid portion of the intestinal contents may be absorbed, causing headache, nervousness, moroseness, foul breath, coated tongue, dry skin, etc. Stomach dilatation is rare, but the colon may become immensely dilated when the obstruction is low.

Oxygen Inhalation.—Many writers have argued from the physiological standpoint that the attempt to use oxygen inhalations for therapeutic purposes is necessarily fruitless. A theoretical discussion of the question by E. ARON (*Berl. klin. Woch.*, Sept. 16, 1901) is followed by a citation of clinical experiments. In cases of chlorosis the result of oxygen inhalation was absolutely negative. In marked dyspnea from cardiac and pulmonary diseases somewhat better results were obtained. Several patients were relieved while oxygen continued to be administered, but no longer; others, markedly cyanotic, denied all subjective relief, and objectively no improvement was seen. So far as subjective findings are concerned, the substitution of ordinary air for oxygen without the patient's knowledge showed that in many instances these are largely due to suggestion. In carbon-dioxid poisoning, inhalations of oxygen are indicated owing to the strong chemical combination found between CO^2 and hemoglobin, which combination is very slowly if at all affected by ordinary atmospheric air, while it is rapidly destroyed by an atmosphere containing a high percentage of oxygen.

Reabsorption by the Pleura.—Although it is well known that the pleura possesses considerable reabsorbing power, the limitations within which such power exists have not been definitely comprehended. The subject has been submitted to experimental investigation by JUL. A. GROBER (*Beiträge Path. Anat. und all. Path.*, Bd. 3, Hft. 2). He considers the anatomical relations of the normal and diseased pleura together with the amount and rapidity of reabsorption by the same. The pleural cavity is in direct communication with the lymph-vessels. The healthy pleura is able to reabsorb foreign bodies and fluids and in every animal an amount proportional to its size in a given time. This is accomplished by diffusion and osmosis, by breathing movements, namely, the pump system of the intercostal lymphatics and the pressure of the lungs against the thorax wall, and the movement of the pleuræ against each other. The reabsorbing power of the inflamed is considerably less than that of the normal pleura. The sound pleura is able to dispose of certain quantities of micro-organisms and toxins without injury to itself. The inflamed pleura does not possess this property.

Pupil in General Disease.—In testing for the light reflex it is a common error that the patient is looking at the source of the light or at some near object. A blind eye will not react to light thrown on its own retina, nor will the second eye, but both will react perfectly if light be thrown on the sound eye. Paralytic mydriasis is seen in progressive paralysis, where at first there was myosis, and in various diseases of the base of the brain affecting the third nucleus or nerve. Irritation mydriasis occurs in cervical spinal meningitis, in the spinal irritation of anemia or chlorosis, as a premonitory sign of tabes, in psychical excitement, and in general paralysis (often in one eye with myosis in the other). While some authorities declare that unequal pupils are always pathological, E. E. JACK (*Boston Med. & Surg. Jour.*, Sept. 26, 1901) has seen inequality last for years from childhood up without other symptoms developing. Irritation myosis occurs in early stages of inflammatory affections of the brain and meninges; later there is dilatation. Paralytic myosis occurs in spinal lesions above the dorsal vertebræ. The best authorities believe that the Argyll-Robertson pupil, reacting in accommodation but not to light, is always a symptom of existing or approaching serious nervous disease. Wernicke's symptom, the hemianopic pupil, is of important localizing value when it can be demonstrated. Hippus, or pupillary oscillation followed usually by dilatation when light is thrown into the eye, is an early sign of a coming paralysis, but is also reported in hysteria and disseminated sclerosis. In the algid stage of cholera the retention of the light reflex implies a good prognosis, its absence the reverse. In diagnosing the nature of intracranial lesions pupillary symptoms, if alone, are of slight significance, except that the lesion must affect the nucleus itself or must be peripheral. If, however, with this isolated symptom there are evidences of involvement of other nerves, the pupilary symptom may become important.

Ringworm and Favus.—Ringworm of the face and body is almost exclusively due to the *megalosporum*, writes A. D. MEWBORN (*Pediatrics*, Oct. 1, 1901), which exists only within the hair, never forms a sheath, and has spores arranged in longitudinal chains. When on the scalp, the favus fungus, *microsporum audonini*, is never found with megalosporum. The microsporum is an endo-ectothrix; the long, slender, jointed mycelium growing lengthwise within the hair, while the closely packed spores form a sheath around the hair, sometimes extending as much as 1 or 2 cm. above the surface of the scalp. Under a low-power lens one of these hairs looks like a glass rod which has been dipped in glue and then rolled in fine sand. The treatment for ringworm used by Sabouraud is to epilate once a week all the diseased hairs, as well as the healthy ones, for 1 or 2 cm. around each patch. The rest of the scalp is shaved, rubbed with a mixture of tincture of iodine, potassium iodide and glycerin, and a cap tied on for protection. The diseased follicles are each touched with croton oil on the end of a toothpick mop. Three or four months is the average time required for cure. Cases of alopecia areata are treated by the Finsen electric light three times a week. The favus cases are treated by monthly epilation and the daily use of a tincture of iodine mixture. Their cure requires four to five months.

Hemoglobinuric Fever.—This fever, seen principally in the South, where it is also known as hemorrhagic malarial fever, swamp fever, or black-water fever, is the pernicious malarial fever in which the urine is loaded with the coloring matter of the blood and has the malarial parasite as an active causative agent. In regard to treatment the profession is divided as to whether large doses of quinine used in such cases may not be the cause of the hemoglobinuria. W. SHROPSHIRE (*Georgia Jour. of Med. and Surg.*, Sept., 1901) reports two cases in which the quinine treatment was thoroughly tried. In one instance quinine in moderate doses had been used in a severe case of malaria and blood began to be passed in the urine. She was then given twenty grains hypodermically every five hours. Cinchonism was caused in a few days, but the bloody urine had ceased and the patient was cured. Another similar case is offered to show that during the administration of moderate doses of quinine, hemoglobinuria may develop, but if the dosage is increased the symptom will clear up, showing that this drug cannot be held responsible for the complication.

Correct Posture.—The proper attitude is not to throw the shoulders back, the chest out, the head up and the chin in, writes J. M. TAYLOR (*Pediatrics*, Oct. 1, 1901), for this means restraint of free movement. A simple rule is to let the shoulders alone, but keep the back straight, hold the chest up and keep the abdomen held in. The pelvis also should be level, not tilted forward, as is commonly the case.

Oleic Acid in Hepatic Colic.—Seventeen cases of hepatic colic are reported to have been successfully treated by means of oleic acid by S. A. DE VEVET (*Rev. de ther. medico-chir.*, Sept. 15, 1901). The action of olive oil in such cases is probably due to its oleic acid. Oleic acid may be used successfully, acording to this author, not only to relieve attacks of hepatic colic, but to prevent them; by its chemical action it prevents the formation of new calculi. From one-half to one gram should be given daily, in capsule, for ten or fifteen days before the approach of the ordinary epoch of attack, if attacks are periodical. After several such courses of treatment the drug may be withdrawn. The alimentary and hygienic regimen ordinarily practised in these cases must not be neglected.

Cerebral Pressure following Trauma.—In examining the contents of the cranium during operation after traumatic cerebral lesions, the dura is found tense and the brain non-pulsating at the cranial opening. This intracranial pressure is not due to the introduction of extraneous substances,

such as blood or clot, as it occurs in the absence of hemorrhages. The determination of the cause of this abnormal pressure is of great interest on account of its practical importance to the neurologist and surgeon. W. B. Cannon (*Amer. Jour. Phys.*, Oct. 1, 1901), after a study of the pathological conditions in traumatic intracranial lesions, the clinical findings in such cases and an experimental inquiry into the cause of brain pressure, arrives at the following conclusions: At the moment of injury the intracranial pressure rises to a height sufficient to check the blood-flow into the brain. Immediately after injury the general blood-pressure usually rises for a moment and then falls. Thereafter a gradual recovery of the normal blood-pressure occurs with an increase in the extent of brain pulsation. The paralysis of the respiratory center following head injury may be recovered from if artificial respiration is persisted in and the heart action remains strong. The primary loss of consciousness after a blow on the head is apparently due solely to circulatory disturbances, although minute changes in the nerve-cells must also be considered. The normal cerebral pressure is about 13 cm. of water. After injury to the brain this may rise to 25 cm. Since this increase is not sufficient to account for the clinical symptoms present there must be secondary processes causing increased pressure. These are three in number, namely, (1) deprivation of normal nutrition in injured parts; (2) passage of water into these parts with consequent swelling; (3) the rigid inclosure of the brain causing this swelling in one region to markedly effect neighboring regions. The thromboses, extravasations and hemorrhages which accompany contusion impair the blood-supply of the injured region. Brain tissue deprived of blood undergoes chemical changes resulting in increased internal osmotic pressure and the passage of water into the tissue. The swelling thus produced compresses neighboring regions impairing the circulation and involving them in the process. This swelling is mainly produced by increased osmotic pressure which may be greater than the blood-pressure, thus preventing the blood from entering the cranium. Recovery from head injuries after pressure symptoms and the accumulation of fluid under the dura and in the ventricles is accounted for by the diffusion of the products of destruction from the tissues.

Precocious Maternity.—An extremely easy labor in a colored girl of eleven years with small pelvis is reported by L. M. Allen (*Maryland Med. Jour.*, Oct., 1901). The labor was attended with little apparent pain and was almost spontaneous, although preparations had been made for operative interference if necessary. The pelvic measurements were as follows: Interspinous, 22 cm.; intercristal, 21.5 cm.; right oblique, 18.5 cm.; left oblique, 18.5 cm.; external conjugate, 14.25 cm.; diagonal conjugate, 8.5 cm. The vagina was small. As a general rule a pelvis of 8 cm. true conjugate will allow labor to proceed either naturally or by version or forceps, but when below 8 cm., if the head cannot be made to engage, a major operation, either symphysiotomy or Cæsarian section, must be considered. Yet, as methods of measuring the pelvis give only approximate results, conservatism until Nature has had a good chance will save many a major operation.

Color Factor in the Anopheles Hunt.—Among the vast number of experiments which have been made with a view to exterminating the mosquito, those by George H. Nuttall (*Brit. Med. Jour.*, Sept. 14, 1901) seem of particular import and interest. Although for a long time it has been known that the *imagos*, particularly during the day, retire to dark and shady places, it would seem that the relation of the insects toward various colors has not yet received particular attention. Studies of their relation to white and black have been made by Austin, who noted that if the walls of the room were whitewashed with a dark dado, the insects invariably clustered on this, always avoiding white. Buchanan, in India, noted that the *Anopheles* always settle on the black coats hanging in the hospital wards, rather than on the white ones. Joly, writing from Madagascar, carries this observation further in reporting that mosquitoes were more attracted to black than to red or white sands. Brown clothes, he observed, attracted them less than garments of white. Madagascar natives have long known the attraction which black offers and hang black cloth from the rafters of their huts for the insects to collect upon. Yellow dogs he observed were less bitten than black ones, and in like manner the natives suffer more than the whites. In testing the influence of color on the *Anopheles*, a series of pasteboard boxes, each lined with a cloth of different color, was arranged near their breeding-place. Lest any outside factor might influence the settling of the mosquito, these boxes were caused to rotate daily. In the series of 17 observations, the number of *imagos* counted in the 17 different colored boxes varied from 108 for navy blue to none for yellow. Albeit the pale greys, greens, and blues did not collect at any time as many as 10. The practical bearing on this would seem to be that these lighter shades should be the color of all clothes in malarial districts. Nuttall also suggests that traps might well be constructed, the bait consisting of this seductive navy blue.

Bismuth Intoxication.—Symptoms of intoxication may be produced by either the internal or external administration of preparations of bismuth. A ten-per-cent. ointment of bismuth subnitrate was used by Dreesmann (*Berl. klin. Woch.*, Sept. 7, 1901) in dressing a burn of the second and third degree, involving the leg and thigh. Three weeks after beginning this treatment a black sediment appeared in the patient's urine. A severe stomatitis followed. On the gum-borders, anteriorly and posteriorly, a blue-black line formed. Enteric symptoms and albuminuria were both absent. Careful examination

of the drug used showed that there was no contamination with lead or other toxic substance. The patient's condition promptly improved when the bismuth dressings were discontinued and boric acid substituted. While bismuth intoxication is rare, when it does occur it presents a picture easily recognized; severe intoxications are therefore avoidable.

The Management of Eczema.—Perhaps there is no department of medicine so closely encircled by the mystic halo of miserable Christo-Mediæval pedantry, which after all, even to-day, masks and mars the bulk of our therapy as dermatology. That eczema, like any other skin disease, when cured, "strikes in," is even among the well-educated so firmly established a view, that it seems almost impossible to up-root it. HENRY WALDO (*Brit. Med. Jour.*, Sept. 21, 1901) outlines a number of common-sense points which cannot be too often repeated. Since the bulk of cases (see Kaposi and others) are not bacterial but irritative cleanliness is of paramount import. The part *must* be washed, but not with soap and water. Water harms by producing local cold through evaporation. A safe fluid to use is the juice of bran, oatmeal or starch, prepared from rainwater, and often it is well to tone it down by a dram of soda to the pint. The area must be washed in this once in twenty-four hours and immediately dried. Local rest is very important. Again, it is well to bear in mind the sympathetic relation which exists between the skin on opposite body sides, a hearty circulation produced in one side which may be healthy gives, by a keen provision of Nature, a similar condition in the opposite, whether diseased or not. Protection of the surface is of great import. Those remedies which yield the best results have been shown to be the best protectors. Internal treatment must not be ignored. Milk, blue pill, aperients, quinine, benzo-naphtol are of value. Much alcohol is bad, but Pye-Smith considers light ale not alone harmless but useful. As to diet it is well to recall Sir William Roberts' rule that any food which causes discomfort is not beneficial.

Apex Pneumonia.—Following an exhaustive résumé of the literature, E. F. CORDELL (*Maryland Med. Jour.*, Oct., 1901) concludes that lobar pneumonia affects the apex about one-third as frequently as the base, and the right apex three times as often as the left. Apex pneumonia is not rare in early life, but then the mortality when uncomplicated is almost *nil*. The general mortality of apex and basal forms is about the same. Involvement of both apices, or of one apex and the opposite base, is very rare and not especially fatal. Intemperance and hyperpyrexia do not increase the relative mortality at apex. Delirium is not more frequent, but is oftener seen in complicated cases than with basal pneumonia. Pericarditis is relatively more frequent, as is, also, otitis media, but there is no difference as regards icterus, hyperpyrexia, endocarditis, meningitis, pleurisy, diabetes or empyema. The apex form of pneumonia involves no tendency to eventuate in phthisis. Pericarditis is a fatal complication, and Bright's disease and bronchitis render the prognosis grave.

Double Stain for the Bacillus Diphtheriæ.—The bacillus diphtheriæ stains with all of the basic anilin dyes, and resists iodin in the Gram method. It is stained best with Löffler's alkaline blue. A stain which has the property of differentiating sharply the diagnostic features of the diphtheria bacillus is suggested by R. L. PITFIELD (*Univ. of Penn. Med. Bull.*, Sept. 1901). Three solutions are necessary: (*a*) Silver nitrate, gram 5; aqua destill., c.c. 5; sat. sol. (alcoholic) fuchsin, c.c. 3; (*b*) pyrogallic acid, gram 1; 10 per cent. sodium hydrate in water, c.c. 5; aqua destill., c.c. 10; (*c*) carbol fuchsin solution, drops 10; aqua destill., c.c. 10. Make a smear, fix with heat, pour on smear solution "*a*," boil a minute, wait a minute and then wash. Then pour on solution "*b*" and do the same; then wash and pour on "*c*" for a minute or two, wash, dry, and examine. The organisms appear delicately pink, of slightly uneven shades. Corresponding to the heaping of the protoplasm. At one or both ends, and afterward in the middle, brilliant shining black points appear, which stand out sharp and clear. The author believes that with this stain a rapid and certain diagnosis can be made without resort to culture media.

Nose and Throat in General Practice.—A physician should not be less expert in the use of the laryngoscope than in that of the stethoscope, writes JOHN HUNTER (*Canadian Jour. of Med. and Surg.*, Oct., 1901), for in personal discomfort, many nose and throat diseases are the "peers" of cardiac or pulmonary ones, and laryngeal and nasal diphtheria and tuberculosis stand in the front ranks of malignant diseases. The most interesting parts of the nasal cavity are the turbinated bones. Their porous character, and the large amount of erectile tissue in the thick layer of elastic mucous membrane surrounding them, make them reservoirs for storing blood, hence vulnerable to disease. The first evidences of disease in the nose are suppression or diminution of secretion of serum and swelling of the soft tissues. After twelve or twenty-four hours there is a profuse secretion of serum and mucus and an exudate of lymph and pus cells. Under certain conditions the mucous membrane may atrophy, the secretions diminish and become tenacious, hence may decompose and cause ozena. Adenoids give the clinical features of mouth-breathing, peculiar listless facial expression, mental dulness, impaired voice-production and articulation, deafness, reflex cough and deformity of the chest. Disease of the nasopharynx is often complicated by disease of the middle ear owing to the entrance of infectious germs into the Eustachian tube. The larynx shows the different forms of laryngitis, ulcers, tubercles, and tumors. Implication of the vocal cords impairs the voice. Enlarged tonsils and adenoids should always be removed early, otherwise the chest deformities, mental hebetude, etc., may become permanent. Local

treatment of the nasopharynx consists of the spray or douche of boric acid, sulphocarbolate of soda, etc., in solution, or of inhalations of hot, dry, moist or medicated air. When using a douche the mouth must be kept open, and no attempt made to swallow or cough, lest some infectious matter be carried into the Eustachian tubes. In cases with excessive discharge and infiltrated tissues, a dry, bracing atmosphere is best, but where the tissues are irritable, reflexes exaggerated, or the secretions diminished and thickened, an equable, warm, moist climate is preferable.

Conjunctivitis from X-Rays.—The continued use of the X-rays has been found to cause various disturbances in animal tissues besides simple burns, but severe irritation of a peculiar kind is probably responsible for it all. J. W. Sherer (*N. Y. Med. Jour.*, Sept. 21, 1901) reports the case of a physician who had been daily exposed to the action of X-rays for three years and a half, having made use of these rays in the treatment of carcinomata. A desquamative dermatitis of the exposed parts of the face developed accompanied by bronzing and a little later both lower lids became thickened and the eyelashes and eyebrows were lost. A distinct retinitis also appeared, presumably due to the same cause. The conjunctivitis was limited to the lower eyelids. All these lesions cleared up readily under treatment and removal of the cause. Of three cases treated by this physician for carcinoma of the ocular region only one showed irritation of the eye, although each received about seventy-five treatments.

Gonotoxin and Immunity.—On account of the insusceptibility of most animals to the gonococcus infection, almost insurmountable difficulties have arisen in the attempt to produce an antitoxin serum by the ordinary methods. The goat seems, however, to be susceptible to this poison and De Christmas is said to have produced immunity in this animal. J. R. Eastman (*N. Y. Med. Jour.*, Sept. 28, 1901) in a discussion upon the gonococcus and its toxin, states he believes a certain degree of natural immunity exists in such individuals as have been cured of an attack of acute gonorrhea. Very rarely an old roué appears with an acute gonorrhea and when he presents a urethritis it is generally an old relapsing case. Seventy-five per cent. of cases treated occur in men under twenty-five," says I. N. Bloom. Children are very susceptible to the gonococcus infection, and as age advances fresh infections become rarer. It is believed that a gonorrheal urethritis, once cured, confers to some degree an immunity against a subsequent attack.

Diagnosis of Brain Diseases.—Many important suggestions in the diagnosis of brain lesions are given by J. F. Eskridge (*N. Y. Med. Jour.*, Sept. 28, 1901). A change in the character of the respiration, rather than in its frequency, is sometimes the first positive symptom of organic intracranial disease, especially of tuberculous meningitis. A respiration that is more frequent while the patient is asleep or unconscious than while awake is very strong evidence of organic disease. Apoplexy due to hemorrhage is attended with greater disturbance of temperature soon after its occurrence than when due to thrombus or embolus. There is usually, in cases of hemorrhage, a rise of 2° to 3° F. within six or eight hours, a little higher on the paralyzed side, and gradually coming down at the end of a week or more. In embolus or thrombus cases there is no disturbance of temperature for two days or more, except in very severe cases. Considerable rise in temperature at the end of two to four days is significant of thrombus or embolus with extensive softening. A persistent higher temperature on the paralyzed side indicates softening or inflammation and renders the prognosis grave.

Prophylaxis of Tuberculosis.—Since the positive proof of the existence of the tubercle bacillus was made known, great stress has been laid upon the fact that it is a contagious disease and laws have been enacted based upon the supposition that the greatest danger in regard to consumption arises from infection. J. Kucher (*Med. Rec.*, Sept. 28, 1901) believes that too much stress is laid upon this point and people are led to forget that the tubercle bacillus must have a suitable soil to work upon and therefore the observance of ordinary hygienic rules of life is frequently far more important in preventing the spread of tuberculosis than any attempt which may be made to avoid infection. If boards of health would concentrate their attention upon regulations of undisputable merit, which are at the same time practicable, and teach people how to live more healthful and hygienic lives it is thought that more good could be done. It must be realized that the tubercle bacillus is ubiquitous and cannot be avoided. It is harmless unless it falls upon favorable soil and the best way to escape it is to fortify the body by a sufficient amount of sunlight and good air, together with proper food and healthful work.

Puerperal Sepsis.—The cause of puerperal sepsis is to be found in some contamination introduced from without which in the congested uterus finds a ready means of propagation on blood-coagula and other dead material. A. Hegar (*Münch. med. Woch.*, Sept. 17, 1901) describes the end result as follows: Either a general peritonitis sets in or a circumscribed focus forms which may involve the pelvic peritoneum or may be retroperitoneal, sometimes extending up through the diaphragm and setting up secondarily a pleuritis or pericarditis. It is important to know that in the cases of pelvic abscess the peritoneum is always involved primarily, the tubes secondarily. A third set of cases is that where the vessels of the uterus are chiefly affected and thrombi with secondary emboli form. All these pathological processes show themselves by a septic fever curve, rapid pulse and respiration, slight cyanosis, dry tongue and benumbed sensorium. Sapremic fever can usually be readily differentiated; it begins early, lasts from one to four days, rarely exceeds 38.5° C., and with it there is a relatively slow pulse, moist tongue and clear mind, while the physical examination is negative.

The therapy of puerperal sepsis is still unsatisfactory and little is to be expected from antistreptococcic sera. The performance of hysterectomy has the disadvantage that one never can tell if the process is still confined to the uterus, The author believes in permanent drainage with irrigation of chlorine water (⅛-¼ liter to one liter of lukewarm water) to be repeated every one to two hours by means of a glass cannula connected with a rubber tube and funnel.

Treatment of Seasickness.—Arguing upon the close anatomical relation which exists between the vomiting and respiratory centers on the floor of the fourth ventricle, R. HEINZ (*Münch. med. Woch.*, Sept. 17, 1901) recommends that if the nausea indicative of beginning seasickness sets in, deep inspiratory movements be made to prevent the vomiting. Animal experiments and observations on his own person have convinced him of the practical value of this procedure.

Renal Diabetes.—That a diabetes may develop in diseases of the kidney similar to the experimental phloridzin diabetes is stated in most works on diabetes. H. LUETHJE (*Münch. med. Woch.*, Sept. 17, 1901) says, however, that before this diagnosis can be made the following must hold true. (1) Absence of glycosuria before the renal disturbance; (2) synchronous appearance of glycosuria and renal disease; (3) absence of relationship between the kind of food taken and the amount of sugar excreted; (4) diminution of the amount of sugar contained in the blood. One case has come under the author's observation where the diabetes followed an ascending pyelonephritis, gonococcic in origin.

Hand Disinfection.—The extended experiments of TH. PAUL and O. SARWEY (*Münch. med. Woch.*, Sept. 3, 10, 17, 1901) lead them to believe that even with the aid of the most poisonous mercury compounds it is absolutely impossible to render the hands germ-free. The number of bacteria remains large, no matter whether sublimate in aqueous solution be combined with alcohol, or the hands are first rendered fat-free with bolus-paste, or other solvents such as acetone or methyl-alcohol be used, or the sublimate be combined with ointments, or finally if complex mercury-salts be used. As long as no better methods are available, sublimate can, however not be replaced in the surgical disinfection of the hands, since with it the best possible results are obtained.

Etiology of Rectal Polypi.—Of benign polypi in children there are two forms, writes FRANCIS HUBER (*Archives of Pediatrics*, Sept., 1901), the soft gelatinous, composed of the elements of the mucous membrane, and the hard or fibrous, representing mucous membrane supplemented by the connective tissue beneath. Rectal polypi usually originate an inch or so from the anus. The soft may be villous, pedunculated, and from the size of a pea to that of a Concord grape, or glandular or cystic with a short and thick pedicle. Both bleed freely. Polypi are usually single, but may be multiple. The author has observed that rectal polypi occur only in those who at the same time showed evidences of lymphoid hypertrophies in the nasopharynx with other manifestations of the status lymphaticus. The pathology is identical with that of adenoids. Polypi are often not discovered, though there may be slight hemorrhage from the rectum, pruritis, fissures, or mucorrhea. In the lymphatic dyscrasia, diarrhea, constipation or other local condition would tend to increase the already large follicles of the rectum, and the expulsive action of the intestine would tend to produce from them a polypus.

Classification of Insanity.—The following five groups of mental affections, F. X. DERCUM (*Jour. of Nervous and Mental Diseases*, Sept., 1901) regards as elemental forms of insanity: (1) Delirium (simple febrile, specific febrile or *delirium grave*, and afebrile), confusion, stupor; (2) melancholia, mania, circular insanity; (3) paranoia; (4) neurasthenic insanities; (5) dementia. The febrile deliria accompany various acute infections, the exanthemata, etc., but *delirium grave* is unaccompanied by any signs of visceral or surface involvements. Afebrile deliria are met with following acute exanthemata, or various intoxications (lead, alcohol), and after trauma or shock. Confusion is a less active and more prolonged condition due to profound and persistent exhaustion and toxin-absorption. There is mental hebetude, but not the cerebral activity indicated by delirium. When confusion proceeds until there is much loss of appreciation of the surroundings, it becomes stupor. In these affections the emotions have no influence, and heredity little if any. In melancholia, mania and circular insanity we have, however, a closely-related group in which heredity and the emotional play an important part. In paranoia we find a history of prolonged mental depression with gradual evolution of delusions of persecution, and finally expansive delusions. The delusions are systematized and persistent. The mania-melancholia condition is intermittent. Neurasthenia implies ready bodily and mental exhaustion and deficient self-control. Dementia presents the signs of mental loss, with failure of the mental faculties, such as memory. The insanities of puberty are the precocious dementias, (1) hebephrenia, marked by elements of depression and expansion; (2) katatonia, with expansion more pronounced, and certain motor disturbances, spasms of muscles, cataleptoid attitudes, automatism, etc.; and (3) marked and well-defined phases of depression and expansion with well-formed delusions more or less systematized. Delirium, confusion and stupor may be met with at any age, mania and melancholia belong to early adult life, and paranoia, the chronic delusional insanity, appears after thirty-five years of age; a persistent melancholia is met with in the middle-aged. The insanities of old age, the senile dementias, may take the form of simple mental loss, of dementia with confusion, delirium or stupor, or of so-called senile paranoia, a dementia with systematized delusions. From the medical point of view, all the mental disor-

ders resulting from the infections, intoxications, diatheses, visceral diseases, nervous diseases, pregnancy, the puerperium and lactation belong to groups one and five. Mania and melancholia never result from these causes, but are diseases primarily of the nervous system, and are largely hereditary. Likewise paranoia and neurasthenia bear no relation to internal diseases, but are favored by persistent depression of nutrition, or anything that will cause degenerative changes in the nervous system.

THERAPEUTIC HINTS.

Kumyss.—Heat two quarts of milk to 100° F., or Pasteurize and cool to 100° F. Dissolve one-third of a yeast-cake in two tablespoonfuls of the milk, boil two tablespoonfuls of sugar with three tablespoonfuls of cold water, mix all together and bottle at once. Cork firmly and stand in a warm (70° F.) place over night. Next morning place the bottles carefully on their sides in a cool place for twenty-four hours. Open with a tap, or use ordinary beer-bottles.—H. V. Sachse in *"How to Cook for the Sick."*

Acute Rheumatism.—Bile should be of alkaline reaction, but in rheumatism it is strongly acid, probably on account of biliary stasis and accumulation of uric acid, therefore F. L. Satterlee (in "Rheumatism and Gout") prescribes a cholagogue at the outset. A good formula is:

℞ Euonymin .....0.015 (gr. ¼)
Podophyllin
Aloin aa .....0.008 (gr. ⅛)
Sig. One tablet morning and night as required.

Next alkalies must be given, preferably the sodium salts. The following is effective and well borne by the stomach:

℞ Lithii benzoat.....2.0 (ʒss)
Sodii bromid
Potass. carbonat. aa.. 8.0 (ʒij)
Potass. acetat.....45.0 (ʒiss)
Sodii phosphat.....15.0 (ʒss)
Syr. zingiberis
Aq. menth. pip. aa q. s.
ad .....180.0 (ʒvj)

M. et Sig. Two to four drams in water, every four to six hours, after food. Or sodium bicarbonate or phosphate may be given or

℞ Potass. bicarb. .....12.0 (ʒiij)
Aq. destillat.....240.0 (ʒviij)

M. et Sig.: One dram to half an ounce of fresh lemon juice, to be taken while effervescing. The alkalies should be kept up until the sweat and urine show no acid reaction to blue litmus. Then a small dose will suffice to maintain the alkalinization of the system. The writer never employs the salicylates, as these tend to produce relapses, gastric and cerebral disturbances, cardiac depression, obliteration of the first sound of the heart, etc. Fever may be met with antipyrin, antifebrin or phenacetin, used, however, with caution. Quinine is worse than useless. These antipyretics are also analgesic, but morphine may be needed. If natural and painless sleep is urgently indicated, the following may be given at one dose:

℞ Morph. sulph.....0.015 (gr. ¼)
Potass. bromid. ....2.0 (gr. xxx)
Chloral. hydrat.....1.3 (gr. xx)
Syr. aurant. cort....8.0 (ʒij)
Aquæ, ad.....30.0 (ʒi)

Of mineral waters, Vichy is very serviceable as a vehicle, and Rubinat Llorach to act on the liver.

When the acute symptoms have subsided, the heart must be toned, and the following mixtures are suggested:

℞ Spt. ammon. aromat. 90.0 (ʒiij)
Ammon. carb..... 4.0 (ʒi)
Tinct. cardamom.....30.0 (ʒi)
Tinct. nucis vom.....12.0 (ʒiij)

M. et Sig.: One dram in water, t.i.d., or, as general tonics,

℞ Tinct. ferri chlorid...15.0 (ʒss)
Tinct. nucis vom.
Acid. phosphor. dil. aa 8.0 (ʒij)
Syr. aurant. cort.....30.0 (ʒi)
Elix. calisayæ.....60.0 (ʒij)

M. et Sig.: One dram in water t.i.d., half an hour before meals, or

℞ Cinchona flav. cort... 12.0 (ʒiij)
Aq. bullient.....150.0 (ʒv)
ft. decoct. et adde
Ac. hydrochlor..... 1.3 (♏xx)
Syr. aurant. cort.... 30.0 (ʒi)
Sig.: One tablespoonful in water t.i.d.

The excessive thirst may be met with water or lemonade. The diet consists of milk, chicken or clam broths, or vegetable soups. The return to solid food should begin with white meat and vegetables, as asparagus and celery.

One of the best topical applications is:

℞ Tinct. aconit. rad.
Tinct. arnicæ aa.....15.0 (ʒss)
Chloroformis .....30.0 (ʒi)
Tinct. saponis camph. 60.0 (ʒij)

M. et Sig: Apply on lint, or rub joint and cover with cotton. When the inflammation determines great effusion into a joint, threatening its integrity, blisters are efficacious.

Insomnia.—In summing up the influence of hypnotics, Mitchell Bruce (in *"Materia Medica and Therapeutics"*) advises that full advantage be taken of the indirect group. Bromides are indicated when the cerebral circulation is excited by overwork; and chloral may be combined with it. Pain or mental distress require opium. Alcohol at bedtime may be invaluable. In every instance the time of administration of hypnotics must be carefully ordered. It must never be forgotten that the narcotics, such as opium and chloral, are powerful depressants of the respiration, circulation and excretion, and may thus produce disastrous results whilst they afford the desired sleep.

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POLITICS AND HEALTH DEPARTMENTS.

NEW YORK is not the only city in which the officials hold office for other reasons than their health. Philadelphians are wondering what excuse their Board of Health has for its superfluous existence, in the presence of such death-familiar leaders as Mayor Ashbridge and Col. Good. The Mayor having twice held the office of coroner, and Col. Good having been his undertaker before he became Health Officer, they both seem to have too keen an eye to business, to wantonly cut down the mortality of the city by enforcing even the most simple and necessary sanitary measures.

The recommendations of leading men in the study of tuberculosis, that every case of consumption should be registered, and whenever necessary be followed up by the Board of Health, have never gotten beyond the paper they were written on, for the reason that the Mayor does not believe that tuberculosis is a contagious disease. The Mayor admits that he vetoed the resolutions which his own Board of Health had passed, giving as a reason, lack of funds to carry out the measures. New York and Boston and Brooklyn have shown that the expense amounts to about 70 cents per case, and could be covered by about $1,000 a year, and that the liability to contagion is perceptibly diminished by such measures. But the Mayor evidently felt that this was a case for him to use the discretion of ignorance, and the discrimination of prejudice, and so refused to notify the physicians of the city that they should report all cases of tuberculosis, and refused to register those cases that were reported by the chief medical inspector of the city.

The spitting nuisance having excited the wrath of citizens and physicians to the point of action, was formally considered by the Civic Club and the Traction Company of Philadelphia, and steps were taken to procure an ordinance against spitting in public places and corridors. But when the enthusiasm of the anti-spitters reached the Board of Health it met a stone wall of indifference. Possibly the Mayor of Philadelphia believes in spitting as heartily as he disbelieves in the contagiousness of consumption. Possibly he can devise more efficacious ways of spending the public money. Possibly he feels, as do certain Tammany leaders, that he has the dubious honor of his party to uphold, and fears to sink to the level of a mere reformer.

At all events Philadelphia's fame as a center of medical science, the reputation of her men, her hospitals and her literature are but as a feather in the pan when measured with the gold bags which her doughty Mayor reserves for political purposes.

PRACTICAL PROBLEMS IN TUBERCULOSIS.

THE control of the spread of tuberculosis is the most important problem which confronts the medical profession of to-day. Although the researches of a large number of experimental investigators and the practical deductions of countless numbers of clinicians have been brought to bear upon this question, we are forced to admit that, while final success seems assured, the ultimate lines along which this conflict is to be fought have not been as yet laid down with distinctness.

It cannot be denied that from a practical standpoint the most perplexing problem in regard to this disease with which the clinician is to-day brought face to face is the proper and judicious handling of the actual cases of tuberculosis which come under his care. This fact should not be lost to view by those who are at work upon the tuberculosis question. In the absence of any

specific medication which can successfully be applied to this condition and the uncertainty of the result of any and all symptomatic methods of treatment, this problem becomes doubly critical, nor is the adoption of a proper therapeusis the only difficulty. Not less important is the institution of advantageous hygienic measures and above all the advisability of counseling change of residence in the existing circumstances which surround each individual case. When once the diagnosis of tuberculosis is established, the latter becomes one of the most anxious questions to be answered, as it is far reaching in scope, involving the domestic, financial and commercial interests of the patient and those connected with him.

The ability of the physician to deal judiciously with these correlated questions determines oftentimes not only the future outcome but also the personal comfort of the patient and the subsequent fortunes of those related to him. Any information that will contribute to wise decisions is doubly welcomed.

For an intelligent understanding of the conditions and as a basis of wise counsel at least two factors need careful consideration: (1) The virulence of the micro-organisms with which the patient is infected; (2) the degree of resistance which the patient possesses to such infection. Scientific investigation has thus far failed to produce any specific criteria by which the degree of resistance to an existing infection may be definitely established. For a determination of this factor, therefore, we are limited to the clinical observation of the case and provided the virulency of the infecting organism can be reasonably established, such observations are of value, the duration of the infection and the extent of the lesions furnishing valuable data.

The determination of the first of these factors, however, is most important as the virulency of the invading organism often decides the subsequent course of the disease in human beings. Heretofore but little work has been done with the bacillus tuberculosis. Dr. A. J. Lartigau (*Jour Med. Research,* July, 1901) reports the study of this organism in 19 cases of human tuberculosis, 8 of which were scrofulous lymphadenitis, 9 pulmonary tuberculosis and 2 tuberculous bone lesions. His object was to ascertain, if possible, the variations in virulence among tubercle bacilli encountered in different tuberculous lesions in man and the relation of this virulence to the clinical and morphological types of the disease. His work was carried on by the inoculation of the tuberculous material into a series of guinea-pigs and rabbits which, after various periods of time, were submitted to bacteriological and pathological examination. The dosage of the inoculated material was accurately regulated by a careful technic.

He shows that the inoculation of the bacillus tuberculosis from different human sources induces various degrees of tissue reaction in these animals which, if the investigations are carried on under proper precautions, indicates a variation in the virulence of the organism used. In scrofulous adenitis the bacilli were usually of low virulence, but in some cases they may be of marked activity, in which case the process is apt to extend to other tissues. Tubercle bacilli of widely different virulence may be present in any one of the various tuberculous lesions. So-called healed tuberculosis of the lung may contain virulent or attenuated bacilli. An individual already infected with an organism of slight virulence may undergo a fresh infection with extremely virulent bacilli and chronic tuberculous bone lesions may contain bacilli of both low and high virulence.

The determination of the degree of virulence of organisms pathogenic for man by a study of their effect upon research animals has been employed with respect to many bacteria, but no special study along these lines has been hitherto attempted with respect to the bacillus tuberculosis. From a careful consideration of Dr. Lartigau's work, it would seem as if the time was at hand when the laboratory is to render more aid to the physician in regard to this disease than the mere diagnosis of the condition. Further research along similar lines promises to give results of value which may be utilized in the treatment of individual cases.

COMMERCIALISM IN MEDICINE.

It has recently been said that, while law has become a business and other professional callings are moving in the same direction, the medical profession has during the past fifty years steadily grown away from commercialism. By this statement we are to understand, not that the physicians of to-day have retrograded in sound business policy, but that the ascendency of what is known as "sharp practice" in the commercial world over the professional duties which form the keynote of medical practice has been avoided.

Assuming that this statement is correct, and as applied to the profession in its entirety it undoubtedly is, there would seem to be implied a libel on the motives of those members of the profession who have gone before, placing them in a less favorable light than the facts warrant. In the last analysis, however, it will be seen that this implication is more apparent than real. If there is any reason why the physicians of to-day are less commercial than those of a half-century ago, it is because of the tremendously increased knowledge in the medical sciences which has more and more drawn their attention from things financial to scientific considerations, so that those who would be sure of ultimate success have had less opportunity to commercialize themselves than did their predecessors. It will be seen, therefore, that the primary object in drawing away from commercialism has been partially one of self-advancement rather than wholly one of philanthropic generosity.

This statement is no slur on the medical profession of to-day for it is a historic fact that the spirit which has very largely actuated scientific leaders in all ages has in the vast majority of cases been this same indomitable desire for individual success.

In regard to the profession of medicine, it has somewhat been the practice in the past, and the same unfortunately prevails in some quarters at the present, to ascribe a very considerable degree of success to that fortunate combination of circumstances known as "good luck" when added to the characteristics of a pleasing personality, the reputation of always being a busy man, and sharp business methods. While in years gone by these possessions may have contributed in a fair degree to personal advancement, the keen-sighted observer, thoroughly conversant with existing conditions cannot fail to observe that the value of these qualifications has been steadily relegated to the rear and that accurate and scientific knowledge along all lines of the allied medical sciences has been the chief factor of success with the preeminent medical men of to-day and must increase in importance for those who are to attain success in the future.

We do not intend to depreciate the value of sound business methods as applied to one's professional career, but to hold that those who are to stand in the front ranks of the future must be essentially physicians in all that the name implies and be further removed from what may be known as commercialism than those who have preceded. It is to be remembered that this conception does not prevent one from utilizing all the known legitimate means for making a livelihood which are open to the medical profession and that such may be used with impunity in so far as they do not conflict with the main object in view nor seriously interfere with a steady progress toward the ultimate goal, but the danger that such means should become to be regarded as the main factors of success must be constantly averted.

It is to be admitted that in certain sections, especially in large cities, there has been evidenced, particularly during the past ten or fifteen years, a tendency on the part of a very limited number of the profession toward commercialism, thus, by their methods, placing themselves on a level with those pursuing ordinary avocations. It should be remembered that by so doing they have virtually withdrawn from the profession and entered into a business on a business basis, submitting themselves to the ordinary laws of commercial pursuits. Observation will show that whatever financial success may have attended their course even this is short-lived from the very fact that the goods which they purport to sell are not marketable in a commercial sense beyond a very limited field. That this evil will always exist is to be expected, but that it will ever become a factor sufficient to degrade the profession in its entirety cannot be comprehended, for the vast majority of those who enter medical practice will always be keen enough to see that genuine success does not lie along these lines and that satisfactory prosperity in the medical profession is incompatible with commercialism in any form.

THE OPENING OF THE NEW TUFTS MEDICAL SCHOOL IN BOSTON.

On the third of the present month the new building of Tufts College Medical School was formally opened. The building is designed to accommodate both the medical and dental departments, the view taken by the president and trustees being that dentistry, now that it has come to be recognized as a serious pursuit of professional grade, should be maintained at the same dignified level as medicine. And it is thought that by bringing the two faculties under one roof the very best opportunities will be afforded to the student of dentistry to keep properly abreast with the advances which are constantly taking place in anatomical and physiological science.

The soundness of this point of view is very obvious. Even at the present day the notion is widespread in some parts of the profession that the chief requirements for a dentist are—as President Capen quotes them in his opening address—a good eye and deft fingers. On account of this very view we fear that many dental curricula are constructed mainly with the view to the development of eye and fingers, in other words to the training of good mechanics without very much thought to the character of the field in which these mechanics are going to do their work. Now if we consider what a tremendously important factor the teeth are in the maintenance of the entire economy in a healthy condition, the wisdom of Tufts in endeavoring to place her dental students in an atmosphere calculated to stimulate to the highest degree a desire for a thorough knowledge of the chemistry, physiology and anatomy of their chosen branch, is at once apparent.

Apart from this attainment of a specific desire Tufts has, by thus starting out on a larger and sounder basis, accomplished something of even greater significance to medical advance. She has started a new epoch in the history of medical education in Boston. By this we mean she has placed herself in a position to cope with her older and better-known rival, Harvard. The results of such a step as this cannot, we believe, fail to have a beneficial reaction upon both colleges. It tends tremendously to stimulate the teachers in both to do their uttermost, those of the one to gain prestige, those of the other to maintain it. And such rivalry is good for any medical center. To borrow a commercial expression, competition is the life of trade. That it is not wholly bad for science is strongly evidenced by the zeal and activity which mark the work that is done in medical educational circles in Philadelphia—a city where rivalry among medical colleges reaches as high a point as in any city in the country. Here each rival school is stimulated to do its utmost for the students whom it attracts, the feeling being that no amount of prestige gained by age or otherwise can exempt from the closest attention to the exigencies of modern medical teaching. One striking result of all this activity is the higher and higher standard of excellence which these schools are attaining year by year.

Boston is certainly large enough to maintain two medical schools of the first excellence and it behooves Tufts, now that she has taken a fair start, to leave nothing undone that will tend to add the proper sort of cubits to the stature of her fame—cubits of high ideals, of scientific broad-mindedness and of simple humanity. We wish her every success.

ECHOES AND NEWS.

NEW YORK.

Reception to Dr. Waldeyer.—The German Medical Society of the City of New York purpose to celebrate the presence of Professor Waldeyer in the United States by a dinner on Saturday, October 25th, in New York City.

$25,000 for University Medical School.—The sum of $25,000, Chancellor MacCracken announced at Monday's meeting of the New York University Council, has been given to the Medical School by one who wishes his name withheld. The Chancellor reported that the university is more prosperous than for a long time.

The Kings County Medical Association.—A stated meeting of the association was held in Wurzler's Building, 315 Washington street, third floor, on Tuesday evening, October 8th. Dr. Henry H. Morton presented a Case of Vesical Calculus, with Specimen, and also A Dissection of the Seminal Vesicles; Dr. Joseph F. Todd reported on five cases of puerperal eclampsia. Dr. Charles Dwight Napier read the paper of the evening on The Treatment of Congenital Club-foot. It was discussed by Drs. Walter C. Wood and J. M. Clayland.

To Ventilate Tunnel Cabins.—The New York Central and Hudson River Railroad last week applied to the Park Department for permission to open ground at four different points along its Park avenue tunnel for the purpose of laying ventilation pipes from the underground signal cabins at Fifty-ninth, Seventy-second, Eighty-sixth and Ninety-sixth streets. This is the first direct step taken by the road to comply with the Health Board's orders to improve the ventilation of the tunnel. The cabins are to receive a supply of outside air by means of 12-inch cast iron pipes ending in overground ventilation caps.

A Health Board Boomerang.—Some of the property owners living in Park avenue have protested to the Health Board against the changes proposed in the New York Central's tunnel. They assert that if the tunnel's present brick walls are replaced by steel girders and the roof is left more open for ventilation the smoke and fumes at present confined to the tunnel will enter their houses, endangering the health of the occupants. They are about to get up a petition to the board. "Of course these people think they have a grievance," said President Sexton of the Health Board yesterday, "but they are mistaken in their belief that

their houses will be filled with smoke; soft coal is not used in the tunnel. There may be a few cinders, but that can't be helped. It is quite impossible to please every one. The change in the tunnel is absolutely necessary, and will be made."

Mortality in the State.—The bulletin of the State Board of Health for the month of August shows that the mortality was 11,000, or 1,300 less than in July, which was excessive. The only material decrease from July, however, was in deaths from accident and violence, to which insolation, or heat stroke, added 1,300 deaths. This was the cause of very few deaths during August. There were five deaths from lightning stroke and fifty-four from drowning. Acute diarrheal diseases increased the mortality over July, causing 23 per cent. of all deaths, as against 18 per cent. in July. This increase is seen in all the sanitary districts, but is relatively greater in rural than in the urban districts. This mortality is, however, largely urban. Deaths from typhoid fever increased from July in all the districts, diphtheria as a cause increased to a small extent, and whooping cough, as always, showed its largest mortality in August in this State. All local diseases caused fewer deaths. Deaths from acute respiratory diseases fell to 500, which is low. Two hundred and eighty of the deaths were from pneumonia. Outside of New York City there were 210 deaths from Bright's disease. Smallpox caused forty deaths, all in the maritime district.

Preliminary Program of the Eighteenth Annual Meeting of the New York State Medical Association.—The program of the meeting of this association is just announced. The reading of papers will begin Tuesday, October 22d, as follows: The Correction of Deformities following Osteitis of the Knee, by Wisner R. Townsend of New York; Echinococcus Disease in North America, by Irving P. Lyon of Buffalo; Appendiceal Fistula, by John B. Deaver of Philadelphia; The Clinical Course of Cancers, by Albert E. Woehnert of Buffalo; The Present Status of the Infectious Theory of Malignant Neoplasms, by George Blumer of Albany; The Estimation of the Malignancy of Tumors with Reference to the Reported Cures of the Disease, by James Ewing of New York; The Treatment of Sarcoma by Toxin Injections, by William B. Coley of New York; The Treatment of Carcinomatous Growths by Caustics, by Andrew R. Robinson of New York; The Surgical Treatment of Cancer, by Francis W. Murray of New York; Malignant Disease of the Nose and Accessory Cavities, by Joseph H. Gibb of Philadelphia; Intrathoracic Growths, by Alexander Lambert of New York; Cancer of the Large Intestine, by James P. Tuttle of New York; Malignant Disease of the Penis, by Henry H. Morton of Brooklyn; Malignant Disease of the Uterus, by William M. Polk of New York; The Daily Medical Inspection of Schools, by Frederic William Loughran of New York; Perforation of Gastric Ulcer, with report of a case successfully operated upon sixty hours after perforation, by Lucius W. Hotchkiss of New York; Alcohol as a Therapeutic Agent at the beginning of the Twentieth Century, by Frank Wellington Dennis of Unionville; The Diagnosis and Management of Pelvic Inflammation, by A. Brothers of New York; Skin Diseases of special interest, illustrated by the Stereopticon, by Grover W. Wendé of Buffalo. Collation.

Third Day, Wednesday, October 23d. *Symposium on Arteriosclerosis.* Arteriosclerosis; Importance, Definition, Etiology and Symptomatology, by Charles E. Nammack of New York; Retinal Findings in Disorders of General Nutrition, by L. A. W. Alleman of Brooklyn; Cardiac Manifestations of Arteriosclerosis, by DeLancey Rochester of Buffalo; Management and Therapeutics of Arteriosclerosis, by Egbert Le Fevre of New York; Blood Examination from the Standpoint of the General Practitioner, by Frank W. Higgins of Cortland; Surgical Malposition of the Gall Bladder, by E. D. Ferguson of Troy. President's Address: Comments on some New Surgical Methods, by John A. Wyeth of New York.

Iodophilia, by Richard C. Cabot of Boston; Laboratory Differential Diagnosis in Surgery, by Simon Flexner of Philadelphia; Modifications in the Methods of Operative Surgery resulting from Laboratory Research, by Joseph D. Bryant of New York; The Use of the Pneumatic Cabinet in the Treatment of Diseases of the Heart, by Charles E. Quimby of New York; Gunshot Wounds of the Hip-joint by Reduced Caliber Projectiles, by Maj. L. A. LaGardi of Washington, D. C.; Asthma of Blood Origin and not Nerve or Reflex, by G. N. Jack of Depew; Conservative Surgery in the Treatment of Tubercular Glands of the Neck, by Parker Syms of New York; A Reconsideration of the Pathogenesis of Concomitant Strabismus, by Alvin A. Hubbell of Buffalo; Acne, by Edmund L. Cocks of New York.

Fourth Day, Thursday, October 24th. Differential Blood Count in Fractures, by Wm. G. Le Boutillier of New York; Prostatic Obstruction to Urination. Its Remedy by Enucleation of the Diseased Parts, by J. W. S. Gouley of New York; Typhoid Cholecystitis, with Report of Cases, by Charles G. Stockton of Buffalo, in conjunction with Albert T. Lytle of Buffalo; Uterine Prolapse, by Frederick Holme Wiggin of New York; What Percentage of Rheumatic and Gouty Patients Develop fatal Pulmonary Phthisis? by Thomas F. Reilly of New York; The Diagnosis of Mitral Stenosis, by H. C. Buswell of Buffalo; Resection of the Cervical Sympathetic in the Treatment of Glaucoma; its present status, by Wilbur B. Marple of New York; A Durham-tube in the Right Bronchus, by E. D. Ferguson of Troy; Indications for Treatment in Uterine Myomata, by George Tucker Harrison of New York; Brief Comments on the Materia

Medica, Pharmacy and Therapeutics of the year ending July 1, 1901, by Edward H. Squibb of Brooklyn.

New York State Association.—The Trunk Association has agreed that persons from points in New York State who pay one full fare of 75 cents or upwards, visiting New York City at the time of meeting, shall be returned at one-third of the fare by the route traveled. Certificates must be obtained from ticket agent at starting point (or nearest station issuing through tickets to place of meeting) and be deposited with the Secretary of the Committee on Arrangements as soon as the members arrive at the Academy of Medicine. It must be understood that the reduction is contingent on an attendance of not less than 100 persons holding certificates, showing payment of full first-class fare. If the necessary minimum is in attendance, and the certificates are properly validated, the holders will be entitled to the reduced return fare as late as October 28th.

PHILADELPHIA.

Dr. Mitchell's New Book.—Philadelphia's noted physician and author, Dr. S. Weir Mitchell, has just added another to the list of popular books from his pen. The new novel "Circumstance"—a picture of American and Philadelphia society—bids fair to add luster to the author's already enviable reputation as a writer.

Reception to Dr. Hayhurst.—A reception was tendered October 1st by the Woman's Medical College to Dr. Susan Hayhurst, who for 25 years has been pharmacist of the hospital. Dr. Hayhurst graduated in medicine in 1857 and afterward became the first woman to graduate in pharmacy in this city, that degree being obtained in 1883.

Pay Hospital for Contagious Diseases.—An entertainment for the benefit of the fund for this proposed hospital is to be held in the Academy of Music November 11th to 16th. The suggestion has been made that the institution be called the "McKinley Memorial Hospital." The suggestion is meeting with much favor among physicians and others interested in the undertaking.

Opening of Medical Schools.—The various medical schools of the city began the session of 1901-02 on October 1st. The opening address at the Medico-Chirurgical was delivered by Dr. John C. Heisler, Professor of Anatomy. The exercises at Jefferson were opened by an address by Dr. J. Chalmers Da Costa, Professor of Surgery. Dr. Da Costa will lecture to senior students and hold the Wednesday clinics in the place of Dr. W. W. Keen who is now in Japan on his vacation trip around the world. Provost Harrison delivered the introductory address at the University of Pennsylvania. Several changes in the faculty were announced. Dr. M. H. Fussell has been made Assistant Professor of Medicine, Dr. Thomas R. Neilson Assistant Professor of Genito-Urinary Diseases, and Dr. E. H. Gregory, Jr., Demonstrator of Anatomy. Dr. Horatio C. Wood has resigned the clinical professorship of nervous diseases but retains the professorship of materia medica, pharmacy, and general therapeutics. On account of ill health he has been granted one year's leave of absence during which Dr. Frederick A. Packard will lecture on applied therapeutics and Dr. H. C. Wood, Jr., on the physiological action of drugs. The Freshman class is reported to be nearly twice as large as that of last year.

Present Status of Serum-Therapy.—Under the title of "The New Weapon for Fighting off Disease" Dr. Joseph McFarland, Professor of Pathology and Bacteriology at the Medico-Chirurgical College, contributes an article to a late issue of the Saturday evening *Post*. Dr. McFarland writes of immunity, serum-therapy, etc., and although intended for the laity this sentence concerning the present status of serum-therapy is well worthy of quotation here: "At the present time the experiments made have led to the discovery of one certainly curative serum—diphtheria antitoxin; a curative serum of limited application—antivenine (antidotal to serpent's venom); a certainly preventive serum—tetanus antitoxin—and a number of very doubtful serums antidotal to blood poisoning, pneumonia, and plague."

Vacancies in Temple College Medical School.—The chairs of Surgery and of Pathology and Bacteriology are vacant. Applications for these positions will be received until they are filled by the election to be held October 17th.

Smallpox Again Increases.—The diminution in smallpox reported last week proved to be only temporary, the report for the week ending October 5th showing 40 new cases and 6 deaths. During September the cases numbered 116 and thus for this year there have been 259 cases. The history of the new cases show that in most instances the patient contracted the disease from being quarantined in houses from which former smallpox patients had been removed. The clash between the authorities and parents of school children, anti-vaccinationists, etc., still continues. The Mayor has signified his willingness to cooperate with councils in removing the municipal hospital to some less densely populated section of the city.

Bequests to Charities.—The will of the late Thomas Elkinton disposes of over $100,000 to charities. The Jefferson, Orthopedic, Polyclinic, University, and Pennsylvania hospitals receive $5,000 each. On the death of the widow they each receive an additional $5,000.

Treatment of Gunshot Wounds of the Abdomen.—At the Philadelphia Academy of Surgery October 7th Drs. Le Conte and Harte each reported a case of gunshot wound of the abdomen, recovery of the patient following operation in each instance. In discussing the papers Dr. W. L. Rodman emphasized several points: (1)

the subsidence of shock should not be waited for in these cases, operation being done at once. He believes that the degree of shock in cases without hemorrhage has been greatly exaggerated, many of them having normal temperature. When present it is likely due to hemorrhage and immediate operation is then indicated; (2) pistol wounds should always be looked upon as septic; (3) drainage should practically always be used; (4) in military surgery non-intervention seems to be the better plan to pursue. In civil practice operate promptly, not waiting for symptoms.

CHICAGO.

Rush Medical College.—Fourteen graduates received diplomas September 30th from this institution at the convocation exercises held at the College. The work entitling the graduates to the degree of Doctor of Medicine had been completed during the summer quarter at the school. The address on behalf of the Faculty was given by Dr. F. C. Hotz, who selected for his subject, "What Constitutes the Practice of Medicine."

Northwestern Medical College.—The Northwestern University Medical School held its opening exercises October 1st. Despite the rigid requirements for admission, it is said that the Freshmen class is by far the largest in the history of the institution. There is also an influx of students to the higher classes, among the latter being a large delegation from the University of Iowa, where the medical department was completely wiped out by fire some months ago. Mr. James H. Eckels delivered the opening address.

Appointment of Dr. N. S. Davis, Jr.—Dr. Davis has succeeded Professor Frank S. Johnson, who resigned the Deanship of the Northwestern University Medical College. The position of Secretary, left vacant by the promotion of Dr. Davis, has been filled by Dr. A. R. Edwards.

Death of Dr. Jones.—Dr. Samuel J. Jones, Professor of Ophthalmology and Otology at the Northwestern University Medical School for twenty-five years, died at his home, Oct. 4th. He was surgeon in the eye and ear department of St. Luke's and Mercy Hospitals, and from 1887 to 1892 was Editor of the *Chicago Medical Journal and Examiner.* He was a member of the American Medical Association, and of the local medical societies. During the Civil War he was a surgeon in the United States Navy, and participated in many naval engagements. Dr. Jones was sixty-five years of age.

Illegible Prescriptions.—Public attention is called to the danger that lurks in illegible or carelessly written prescriptions by a suit for damages that has just been brought against a West Side druggist by a Chicago citizen who claims that the druggist in compounding a prescription for his baby used a compound containing 10 per cent. opium instead of 1 per cent. opium, which the prescription called for. The druggist shifts the blame to the physician who wrote the prescription, claiming that the writing was illegible. Independent of the particular allegations in this case, it is plain that the public safety is constantly menaced by careless and illegible writing of prescriptions on the part of physicians. In case of doubt, the prescription should be sent back to the physician to be deciphered.

Opening Exercises of the Chicago College of Physicians and Surgeons.—These were held in the College Building, Oct. 1st. The address to the students was delivered by Dr. Sanger Brown.

Pasteur Institute.—Chicago Pasteur Institute, in its latest report, shows that since the establishment of the institution 1,150 patients have been treated, and of this number only 7 died, making the mortality but little more than one-half of one per cent. Records of untreated cases show that the mortality is about 88 per cent. for bites on the face, 67 per cent. for bites on the hands, and 20 to 30 per cent. for bites on the limbs and body. Many States and Territories, as well as Canada, have sent patients to the Institute. Of the total number of patients received, 1,040 had been bitten by dogs. Cats had wounded 36, horses 41, skunks 12, wolves 5, cows 6, calf 2, rat one, a mule one, a pig one, and human beings 6. Of the 7 persons who died, 4 were overtaken by hydrophobia soon after reaching the Institute, many days having elapsed since they were bitten.

A Hospital for Consumptives.—A home for consumptives has been established at Austin, the corner-stone of which will be laid October 20th. The building will cost $150,000, and will occupy grounds of ten acres. It is being erected by the Sisters of St. Elizabeth's Hospital.

Bequest of Henry C. Durand.—By the will of the late Henry C. Durand, of Lake Forest, $10,000 is bequeathed to the Presbyterian Hospital.

Chicago Medical Society.—This Society held its first meeting since the summer vacation October 2nd, in its new meeting-place, Schiller Hall. Dr. N. S. Davis, Sr., delivered an interesting address on "The Origin and Progress of the Chicago Medical Society." Dr. William A. Evans presented a paper on "Fat Necrosis."

Cook County Hospital.—Dr. Arthur R. Edwards and Dr. James B. Herrick have resigned from the Executive Committee. The President, Dr. Denslow Lewis, has appointed Dr. E. Fletcher Ingals to represent Rush Medical College, and Dr. Robert B. Preble to represent the Northwestern University Medical School. The Committee elected as Chairman, Dr. Wm. E. Quine, who appointed the following subcommittees: On clinical instruction, Drs. Baldwin and Webster; records, Preble and Lewis; morgue, MacKellar and Kearsley; admission and assignments of patients, Lewis and Swan; Internes and nurses, Ingals and MacKellar; laboratory, Kearsley and Baldwin. The Chairman, *ex-officio* member of all committees.

Testimonial Banquet to Dr. S. Davis, Sr.—

Dr. N. S. Davis, Sr., was tendered a testimonial banquet October 5, 1901, at the Auditorium Hotel, Chicago. It is estimated that there were three hundred physicians in attendance from the city and elsewhere.

Dr. Frank Billings acted as Toastmaster. Dr. James H. Stowell, a member of the Committee of Arrangements, called attention to the many eminent pupils that had graduated under the instruction of the distinguished guest. He said that the Deans of three of the largest medical schools in Chicago were pupils of Dr. Davis. Dr. Frank Billings said that while Dr. Davis was a Chicagoan, he belonged to the whole country. He was a New Yorker by birth, and was born on January 9, 1817. He was looked upon as a lever to elevate medical education. Among the chief characteristics of Dr. Davis' life he mentioned industry, tenacity of purpose, progressiveness, liberality, integrity, and a Christian spirit. Dr. Edward F. Wells made a speech in which he presented a loving cup to Dr. Davis. This beautiful cup, of Grecian design, was, in its lines and proportions, a model of simple, vigorous dignity, and was selected as being peculiarly emblematic of the character and career of the distinguished guest. Engraved upon one side was an excellent likeness of Dr. Davis; upon another was the leaf of victory, and beneath it the inscription, "Palman qui meruit ferat"—let him who has won it bear the palm; and beneath this, pioneer in local and national medical organization, and in graded medical instruction, and upon the other was this memorial tribute: "Presented to Nathan Smith Davis, A.M., M.D., LL.D., in recognition of his long and distinguished services to medicine, in its every field of usefulness, by the members of that profession which he has so conspicuously adorned, and to whose shield he has given an added luster."

Dr. Davis was enthusiastically received, and, in accepting the loving cup, expressed his cordial thanks for the demonstration of kindness. He thought it would probably be the last time he would have the opportunity to address such an audience. But before he sat down, he said: "If you want to promote harmony, cordiality, advancement; if you want to build up, stop pulling down anybody. If your neighbor does not do as you think he ought to do, talk about his good qualities, and let his bad go. In this way, you will soon establish harmony, you will soon have cordiality, and will have you own heart free, and your conscience will be right before your God."

Letters and telegrams of regret were received and read from various members of the profession all over the country. The following toasts were responded to: "The American Physician," by Dr. Charles A. L. Reed, of Cincinnati, Ohio; "International Medicine," by Dr. Donald Maclean, of Detroit, Michigan; "Western Medicine," by Dr. Archibald Church, of Chicago; "Medical Education," by Dr. Victor C. Vaughan, of Ann Arbor, Michigan; "Literary Medicine," by Dr. Hobart A. Hare, of Philadelphia, Pa.; "The Physician in Public Affairs," by Dr. Robert H. Babcock, of Chicago.

A short, but appropriate, speech was made by Dr. Edwin Ricketts, of Cincinnati, Ohio. Reminiscences of Dr. Davis were related by Drs. John H. Hollister, Edmund Andrews, Norman Bridge, and Frank X. Waxham.

GENERAL.

Medical Society of City Hospital Alumni, St. Louis.—The last meeting was held Thursday, October 3d. The following papers were read: "Report of a Case of Iodoform Poisoning," by Dr. Charles H. Dixon; "Some Observations on Malarial and Blackwater Fever on West Coast of Africa," by Dr. V. P. Blair.

Registration at Harvard.—The effect of stricter admission requirements in the Medical School is shown by a falling off of about 100 in that department. Beginning this year, only graduates of recognized colleges or scientific schools will be admitted.

Huntington Mansion to Become a Hospital—The widow of Collis P. Huntington has announced that the Huntington house, at California and Taylor streets, San Francisco, will never be privately occupied again. Mrs. Huntington said: "I have determined to devote the house to some charitable purpose, just what I am not prepared to say. I may convert it into a hospital for women."

Wholesale Disinfection.—During the past summer Galveston has been disinfecting with a sprinkling cart. To the alleys, the low streets, the fronts of market houses, and the refuse of fish and oyster shops, the cart has paid almost daily visits, and it is generally admitted that the practice has done much to preserve health. The Board of Health is working on the "ounce of prevention" principle, and the disinfecting cart was part of its campaign of education in the advisability of a liberal use of disinfectants. Those who will agree to use disinfectants are furnished with them by the city without cost, and the result, according to the Galveston *News,* is that the city has been in a superior sanitary condition throughout the season.

Obituary.—Dr. R. H. Nesbitt died of gangrene of the intestine at New York Hospital, Thursday morning, Oct. 10th. Dr. Nesbitt was a resident of Wheeling, W. Va. He graduated two years ago from the College of Physicians and Surgeons with honor. In the competitive examination for New York Hospital he obtained the second appointment and has served in that hospital for the past two years. While serving in the hospital he was operated on for a severe gangrenous appendicitis and recovered. Fibrous bands which then formed are supposed to be the cause of the gangrene in the present attack. After serving his regular service in the hospital he had charge of the private pavilion and has just returned from Europe.

CORRESPONDENCE.

A MC KINLEY MEMORIAL.

A SEASIDE SANATORIUM WITH A PAVILION FOR EVERY STATE FOR THE TREATMENT OF AMERICAN CHILDREN SUFFERING FROM TUBERCULOUS AND SCROFULOUS DISEASES, OR PREDISPOSED TO CONSUMPTION.

To the Editor of the MEDICAL NEWS:

DEAR SIR: During the past week some lay and some medical journals announced that it was intended to erect in Washington a McKinley Hospital in honor of our late beloved president.

Beautiful as this idea may be, I believe that a little memorial hospital, located in Washington, is not a great enough tribute to a nation's president such as was William McKinley. Furthermore, while I would not wish to say that there is no room for a hospital for the treatment of general diseases in Washington, I know that there is no urgent need for it. On the other hand, I know, and all physicians and charity workers of our large Eastern and Western cities will bear me out when I say that there is a crying and urgent need of a sanatorium, or rather several sanatoria where the many little scrofulous and tuberculous children of poor parents could receive treatment, care and the necessary education. France, Germany, Holland, Italy, and the Scandinavian countries all have numerous seaside sanatoria where the little sufferers afflicted with the above-mentioned diseases are taken care of. The seacoast climates, combined with proper sanatorium treatment, seem to produce really wonderful results in scrofulous and tuberculous children. The reports of some of the European seaside sanatoria show an average of 75 per cent. of cures.

We in America have, with the exception of one or two small children's hospitals and a few floating hospitals during the summer months, no such institutions. In a little address delivered at the recent Congress on Tuberculosis in London, I said that in our eagerness to take care of the consumptive adult we should not forget the little sufferers afflicted with the same or other tuberculous diseases. To treat the scrofulous or tuberculous child (scrofulosis being only a milder form of tuberculosis), or to prevent a child with a hereditary tendency from developing consumption or any other form of tuberculous disease, means the saving of a life and perhaps the preservation of a very useful future citizen.

To realize the urgent need of seaside sanatoria for children one must have visited the crowded tenement districts of our great cities and seen the large number of scrofulous and tuberculous children there and the many who bear on their pale little faces the stamp of candidates for consumption (pulmonary tuberculosis).

There are already laws in some States prohibiting the tuberculous child from attending public school; but as far as I know none of these States have provided other places where children suffering, it is true, from a chronic communicable but also curable disease can receive the education to which they are entitled, much less where they could have a chance of being cured of their affliction. The results obtained in some of our American sanatoria for the treatment of tuberculous adults are as good as any of those obtained in European institutions. The preventive measures inaugurated by our New York Board of Health have not only served as models for other American cities but have been imitated by many European municipalities and found to be the most practical and efficacious. We have already a number of sanatoria for the treatment of the consumptive poor adults, though by no means enough. However, in nearly every State of the Union the question of providing institutions for adult tuberculous patients with little or no means is now being agitated. Only for the countless little ones suffering from the same or other tuberculous diseases there is nothing done.

Our good McKinley had two children, and these he lost. He dearly loved little children and the creation of a sanatorium for the treatment and prevention of a disease with which so many American children are afflicted would surely be a fitting memorial to this great man and lover of children. "McKinley Sanatorium for the Treatment and Prevention of Tuberculous Diseases in Children" should be the name of such an institution.

The meaning of the name William McKinley, written on the portals of these houses of hope for many a suffering mother's heart, will be made clear to these little inmates by their teachers and friends.

The word McKinley will embody to these little sufferers all that is needed to make them good patients, obedient pupils, noble men and women, true American citizens. McKinley's fortitude during the last days of his life must teach them what all patients need: Trust in God, confidence in their physician, patience. His words of forgiveness to the very man who slew him must show these little children the sublimity and nobleness of his character. McKinley's life as a man, citizen, patriot, and president embodies all that is truly American. A better example to teach our children the meaning of true manhood and true patriotism we can not find.

Let all American men and women who can afford it contribute through their children or through their children friends toward the realization of this McKinley sanatorium.

In letting the children of parents of means who are happy and will bring their mites toward a movement of this kind a lesson of charity and patriotism may be taught to them as well. There will be found in every community responsible and patriotic citizens to take this matter in hand and bring it to a successful issue. Let each State contribute enough to have its own pavilion in which to place its children. Let the Atlantic and Pacific coast be lined with such institutions, one or two

pavilions for each State according to its needs. Let good schools be attached to each sanatorium so that the intellectual development of the children may not suffer.

There exists in the North Sea (German Ocean), on the island called Norderney, a beautiful flourishing sanatorium for the treatment of tuberculous children. Its name is "Kaiser Friedrich Hospiz" and it was erected in memory of that unfortunate emperor Frederick the Third, whom the German people so fondly call "Frederick the Noble." In the fortitude of this beloved sovereign, in his patience, in his martyrdom, in his love for the people, in his ideas and ideals of what should constitute a free and just nation, there is a great similarity to our beloved McKinley.

We too may call our martyred ruler "the Noble," and to his memory erect a memorial of practical utility. Let us build an institution where the lives of American children can be saved; to be sent forth in health and vigor to their respective communities, and to help finish the work for which McKinley lived and died: to make the American nation the greatest, the noblest, the foremost of the world.

Very truly,
S. A. Knopf, M.D.

New York, October 9, 1901.

CHRISTIAN SCIENCE AND MENTAL EPIDEMICS.

To the Editor of the Medical News.

Dear Sir: Concerning the question of Mental Epidemics referred to in the opening of my article upon *Christian Science "Cures"* published in your issue of July 27th last, I ask you to be kind enough to print the following facts.

Epidemics of mental disease are not new, as some medical men, not alienists, of course, seem to believe. Upon the other hand, they date back as far as the year 1000. The subject is referred to at considerable length by Esquirol in his "mental maladies," of which there is an English translation. He gives a complete account of the "Miller Mania" which "Originated in the readings, reflections, and dreams of one William Miller of the State of New York, who came to know about the year 1840 at what time 'the Lord was to appear in the heavens' and the end of all things to come."

The question of mental epidemics is admirably discussed by Dr. Boris Sidis, of the New York Pathological Institute, in his most interesting book "The Psychology of Suggestion" (Appleton, 1898.) Upon page 349 of this work may be found a chronological table of "the uninterrupted chain of European epidemics."

Pilgrimage epidemic		1000 to 1095
Crusade epidemic	Eastern & Western crusades, Children's crusade.	1095 to 1270
Flagellant epidemic		1260 to 1348
Black death & antisemitic mania		1348
Dancing mania	St. John's dance	1374 to the end of the 15th century.
	St. Vitus' dance	1418
	Tarantism	1470
Demonophobia, or witchcraft mania		1488 to the end of the 17th century.
Speculative mania	Tulipomania	1634
	The Mississippi Scheme	1717
	The South Sea Bubble	1720
	And bubbles to our own times.	

I wish it distinctly understood that I have simply copied Dr. Sidis' table, and have neither added nor omitted anything.

Lawrence Irwell.

344 Hudson St., Buffalo, N. Y., Sept. 17, 1901.

WHAT CONSTITUTES A QUACK, IN THE PROPER SENSE OF THE TERM?

To the Editor of the Medical News:

Dear Sir: It occurs to the writer's mind that an expression of opinion by the Editor on the above question would be of interest and great service to News readers, stimulating them to greater efforts in studying physiological or natural methods in the treatment of disease. The fact of the News having printed an editorial some months ago on the Scientific Basis of Hydrotherapy, taking strong ground in favor of the schools devoting more time to the teaching of non-medicinal therapeutics, together with the further fact of its acceptance of a most radical article on typhoid fever by the writer, in which the greatest stress was placed on the value of hydrotherapy and therapeutic fasting, drugs being practically ignored, emboldens me to make this plea.

Let me put it in this way: Here is a physician of the most regular order, the owner of one or more parchments, practising according to our strict code of ethics and after the teachings of the schools. He loses, say fifteen out of every one hundred cases of typhoid fever, the average mortality in the Massachusetts General Hospital during the past forty years having been 15.5 per cent.

Over against this showing I will place the record of a non-graduate, or shall I say a man who twenty odd years ago "graduated" from a truck-cart; that is, he was a hard-working truckman. He got hold of a work on "The Water Cure," became greatly interested therein, and aside from that he subscribed for a health journal and read everything he could find along this line. He began practising by treating here and there one of his poor neighbors gratis. His success induced him to devote his entire time to his new work, and he finally became a very busy practitioner. For upwards of fifteen years he was one of the busiest and most successful doctors in this city. Naturally enough a great share of his practice was in cases given over by his regular contemporaries, or rather, I should say, that came into his hands

after unsatisfactory results from regular treatment.

Speaking generally, the laity demand first of all the regular stamp on their family physicians; if worse come to worst, and they have to make any change, they may consult a Christian Science faker, a spiritualistic "seer," or—a water-cure doctor! The latter may be consulted in pure ignorance of there being any special difference between empirics, as we are apt to style all irregulars. This special empiric took all sorts of cases, diphtheria, typhoid fever, pneumonia, puerperal, rheumatic, scarlet—in short every form of fever. His success was far and away beyond any regular physician in our midst. He seldom lost a patient with typhoid fever and labored energetically year after year, doing splendid work.

He was a skilled masseur; he knew how to employ water very skilfully; he never permitted a fever patient to eat a morsel of food until convalescence was fully established; he seldom employed any medicament, although he was apt to pprescribe a placebo of his own concoction, an inert water mixture that could not in the most remote way deplete the vital organism of his patient.

He was by the profession, and even by the laity in general, called a quack; but was he that? As between a doctor who goes along practising blindly and lazily after the teaching of the schools, having long illnesses and losing many patients by death, on the one hand; and, on the other, a physician such as I have described, which, let me ask, is the quack?

CHARLES E. PAGE, M.D.

Boston, Oct. 2, 1901.

A SANATORIUM FOR TUBERCULOSIS.

To the Editor of the MEDICAL NEWS:

DEAR SIR: It is a pleasure to announce that New Mexico is no longer under the reproach of not providing adequate accommodations for tuberculous invalids. An institution fully equipped for the practice of the modern therapeutics of tuberculosis has been established at Silver City, New Mexico. The Sisters of Mercy, who have it in charge, bring to bear their long experience in the management of hospitals, and sanatoria, and the fact that the Institution is conducted by them is a surety that every effort is made to maintain a high standard of efficiency.

It is a well known fact that Silver City possesses exceptional climatic advantages. The question of climate was most carefully considered in selecting a site for the U. S. General Hospital for the treatment of tuberculous soldiers, and the representatives of the Government finally decided upon Fort Bayard, six miles from Silver City.

Writing particularly of Silver City, Prof. C. B. Penrose of the University of Pennsylvania states that he spent two years roaming over this arid district and that as a result of his personal experience he believes that a greater proportion of cases get well in New Mexico than in any other Territory or State. (Wood's Practice.)

The maximum amount of rainfall is less than 15 inches. The complete aridity of the region attests the dryness of the atmosphere. Both heat and cold are unknown. Our summers are cool and winters warm, the former condition being the result of an altitude of 6,000 feet—itself a manifest advantage, and the latter due to the latitude, which is that of Savannah, Ga. Then, comfortable outdoor life is practicable at all times during the year. In this respect we are more fortunate than other southwestern resorts where the weather is enervatingly warm during the summer. The last annual report of the U. S. General Hospital at Fort Bayard conclusively demonstrates the utility of our climate in the treatment of pulmonary and laryngeal tuberculosis.

The régime at St. Joseph's Hospital includes careful medical supervision, as well as very possible sanitarium comforts. The cuisine is first-class, rooms airy and cheerful and porches commodious. Complete reports of progress in any case are furnished the home physician when desired.

Very respectfully,
E. S. BULLOCK, M.D.,
Medical Director.

Silver City, N. M., September 28, 1901.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

THE PROGNOSIS OF ASCENDING GONORRHEA IN WOMAN — RESPIRATION DURING THORACIC ANKYLOSIS—TRAUMATIC TABES—MYELOGENOUS BONE-TUMORS—GASTRIC CARCINOMA.

THORN, at the Medicinische Gesellschaft zu Magdeburg, June 6, 1901, read a paper on the subject of ascending gonorrhea in the female and more especially on its immediate and ultimate prognosis. There is at the present time a mild reaction in Germany against the former immediate and more or less radical operative interference in this case, which implied unilateral or bilateral extirpation of the adnexa. A conservative, often non-operative therapeusis, is now the rule and in his own opinion has been for many years the proper one. Recently Krönig published a series of valuable statistics on this subject which bear out this opinion and render discussion of the subject proper. If one can positively show that the primary and secondary prognosis of this ascending disease is far better than it was formerly pronounced to be; then the number of "clearings out of the pelvis" and other visceral ablations will decrease and the therapeusis of the trouble assume a kindlier and less damaging phase, especially in the large cities. How difficult this will be in the face of a false prudery is at once apparent, even among such a class of people as the maritime. Thorn has,

however, had the good fortune to see a large number of relatively early cases of gonorrhea in women, the ascension of which was successfully hindered by the timely and proper application of suitable remedies. Extension upward of any bacteria is normally and effectually hindered by the anatomical conditions at the internal os uteri. This rampart is usually scaled only during menstruation or the early puerperium or by the improper use of sounds, irrigations, applications and curetting. Suitable means, however, aside from these conditions which favor promulgation of the cocci, do succeed although the so-called abortive treatment usually leaves little result behind. The use of the sound must be limited more and more in gynecology and always with increasing aseptic and antiseptic precautions. Probably the instrument can be practically discarded altogether in the presence of other carefully combined examinations. Whenever possible the patient must be put to bed and in charge of a nurse, with full warning to and understanding by both of the great responsibility inherent in any relaxation of the treatment and especially in any exposure to reinfection. If the gonococcus has really invaded the corporal endometrium it may still be possible to avoid its entrance into the tubes if only a precocious local treatment is carefully avoided. An active gonorrheal endometritis permits no local interference with safety, but the usual post-gonorrheal inflammations are the very ones which do. Even after the tubes and parametrium have become involved, complete restitution, with preservation of the powers of conception, is possible. The early peri-uterine reaction may easily deceive the inexperienced into believing the changes to be permanent. The rapid enlargement of the tube, the various adhesions present often recede or disappear entirely under appropriate antiphlogistic treatment and rest in bed. The rapidly developed and often astonishing tumors which appear in the pelvis are made up not so much of the tubes with intratubal exudates as of the tubes with their contents augmented by peritubal exudates, adhesions, seroceles and intestinal coils. It may seem parodoxical, but yet it appears to be a fact, more and more, that the invasion of the peritoneum by the gonococcus is rarely if ever fatal. To this statement the recent researches of Bumm lend authority and, therefore, too premature a laparotomy must be avoided. Bumm has stated that the gonococcus practically never causes death by peritonitis in woman. Wertheim has shown that this germ can not penetrate the myometrium. Hence it must be concluded that when a parametritis occurs, probably a mixed infection was present at the outset. Admittedly only a few of the advanced cases of ascending gonorrhea result in absolute restitution, but of the others during the course of the first year a recession of all the complications commonly results from good treatment and from that period onward, the tendency is toward a more or less complete restitution of the visceral functions. According to the admirable statistics of Bumm and Krönig, in about 90 per cent. of all cases such an improvement takes place during the first five years. The question of sterility is also, according to these observers, not so serious a one as many authors have in the past claimed. The older and especially the newer results all tend to show that the prognosis of ascending gonorrhea is not as serious as was at first suspected and when one considers the unpromising records of the early operative therapeusis this fact is more and more established. In perhaps fifty to sixty per cent. early operation has failed to produce any very great success. The total ablation of the internal organs of generation would probably be better, but except in women near their menopause no one would recommend this. It is in the young women sexually that these troubles are usually encountered and to such a premature menopause is often disastrous. Even in the operative cases vaginal incision and drainage of these pus-collections require better judgment and skill than does the laparotomy. It is certain, therefore, that in the future the treatment of choice for these cases will be first the expectant, then the operative of which the total ablation of the adnexa is a last resort.

J. Müller, at the Physikalisch-medicinische Gesellschaft zu Würzburg, July 18, 1901, noted his observation of a case of progressive inflammatory ankylosis of the thoracic vertebral column, continuing to involve the rib-joints also. Therefore, the changes in the volume of the chest which follow upon the rise and fall of the ribs are absent and breathing is confined solely to the action of the abdominal muscles and the diaphragm. The rest of the symptom-complex, which Strümpel was the first to fully describe, was by this case entirely ratified. Only the lowermost ribs were movable at all and then only to the limit of 6.5 cm. in circumference. The rest of the ribs moved only a very little, even in deep respiration. The excursions of the abdominal muscles, however, were very much augmented, so that at the navel they reached the limit of 4.5 cm. Expiration was marked by the appearance of a deep abdominal furrow. The vital capacity of the chest was decreased by nearly 400 c.cm. under the normal standard of 2040 c.cm. One might assume then that compensatory abdominal respiration may produce various secondary effects. Dyspnea was present in a short time following any effort at forced respiration, not in its frequency as in its depth. The natural number of respirations was 22 to 24 in bed to 20 to 22 on the feet. The pulse was regularly accelerated to about 100 and upon easy effort to about 140. This may have been due to the impediment offered the heart by the overacting diaphragm. The typical bending of the trunk forward seems to be due to the abnormal play of the abdominal muscles and was present in this patient to a marked degree.

Strauss, at the Gesellschaft der Charité-Aerzte in Berlin, July 18, 1901, gave a clinical

demonstration of traumatic tabes. The workman had fallen into a ditch two years before the development of left-sided ataxia, emaciation, absence of pupillary reflexes and of the patellar reaction. After the accident only a difference in the pupils was noted. Infection and inflammation from cold were both denied.

Von Kryger, at the Aertzlicher Bezirksverein zu Erlangen, June 24, 1901, read a paper discussing conservative treatment in surgery of myelogenous bone-tumors. The burden of his conclusions rested upon several cases and their results, of which the following are the most important. From the lower third of the humerus of a man a sarcoma was taken in such a manner that only a small shell of bone carrying the internal condyle remained. The patient made a perfect recovery, but has a movable joint. In a young girl a sarcoma was also taken from the femur, involving much of the internal tuberosity. About sixteen centimeters of its lower extremity were sacrificed and the bone-stump morticed into a socket chiseled out in the head of the tibia. The result in this patient is not yet complete, but promises well for the immediate present. At this moment she is going about with a plaster-of-Paris dressing. Such results, of course, have no reference to the question of ultimate recurrence of the growth and certainly are not comparable to such as usually follow high amputation in this respect, but they are less dreadful for the patient to contemplate and usually secure a much earlier permission to operate. Moreover, function with part of a normal limb, as in both of the above cases, is easier and better than with the most finely adjusted apparatus. A comparison can in broad terms be made to the conservative treatment of carcinoma of the stomach. We see, for example, in cases of gastric carcinoma. The most severe symptoms of obstruction disappear after the operation, the patient gains greatly in weight and strength and lives happily for a year or more, although the tumor goes quietly on growing. Similarly cicatricial stenoses of the pylorus may be greatly benefited by the more conservative treatment. At Erlangen Von Hacker's retrocolic method is preferred to Wölfler's antecolic method. The after-treatment in these gastric cases is important. As a rule rectal feeding should be employed at first. Then fluids by mouth and finally after two weeks, sometimes less, full diet. As a rule, all cases do very well under this regimen.

THERAPEUTIC HINTS.

Cuprol and the Eye.—S. Snell (*Lancet*, Sept 14, 1901) states that cuprol, the new combination of six per cent. copper with nucleinic acid, is a most valuable substitute for copper sulphate in the various conjunctival affections in the eye. Less irritating, more penetrating, not coagulating with albumin and alkalis, less painful in actual application, and, so far as results at present have shown, equally active therapeutically as the old "blue stone," it seems to be in virtue of these characteristics a most desirable substitute for it. He has used it with great satisfaction in granular lids, trachoma and pannus and purposes extending it field of application to the other conjunctival affections.

Treatment of Psoriasis.—At a meeting of the Dermatological Society of Vienna, H. Steiner (*Revue de thérap.*, Sept. 1, 1901) presented a patient, thirty-eight years old, who had been suffering with psoriasis for nine years. He had been treated in different hospitals with tar, pyrogallic acid, arsenic, with but little success. He had constant relapses. Four weeks prior to his presentation to the society he came to the author with an acute attack. He was given a hypodermic injection of half a syringeful of boiled Levico water, in the dorsal region. On the third day a syringeful was injected; on the fifth day, 2 syringefuls; on the tenth day, 3 syringefuls, etc. In all, the patient received 22 injections. There was continuous amelioration and at the time of presentation the previous diseased skin presented only slight pigmentation. The injections of Levico water are easily made, act rapidly and gastric disturbance is avoided. In therapeutic action, Levico water is very much like the cacodylates. It is claimed that sulphur which it contains in combination is an advantage, as it is said to exert a vaso-constrictor influence.

BOOK REVIEWS.

A Text-book of Gynecology. Edited by Charles A. L. Reed, A.M., M.D., Gynecologist and Clinical Lecturer on Surgical Diseases in Women at the Cincinnati Hospital; Fellow of the American Association of Obstetricians and Gynecologists; Fellow of the British Gynecological Society, etc. D. Appleton & Co., New York.

This is the latest development in the evolution of the composite book and is peculiar to itself. In its original form the composite work was simply a conglomerate, the various chapters being written by different men and standing as they were written, the editor doing little more than writing an introduction and serving as a whip to secure the material from the various authors. In the next stage the editor felt the necessity of eliminating repetitions and harmonizing the material so as to give the volume more homogeneity. Practically the editor rewrote everything and eliminated the individuality of the various authors. This reached its extreme limit noticeably in the American Text-Book of Gynecology. In the volume under consideration the editor has

remodeled the material of every contributor to a greater or less extent and tells in narrative form what the original writer had to say upon the subject. Thus, Dr. Foster is credited with the paragraph on nomenclature and we quote: "The language of medicine, says Dr. Frank P. Foster, is by no means free from the defective neologisms that are to be found in the contemporary literature of the other sciences. * * * He considers that their formation is for the most part to be attributed to the rage for designating diseases, operations, and the like, by single words." To take another illustration. Dr. Carstens is credited with the paragraphs on Palliative Treatment of Cancer and we find these sentences: "Carstens has observed cases in which this treatment has been followed by perfect healing, etc. * * * In such cases Carstens proceeds as follows: * * * Carstens applies it at once as follows," and so on. This method necessitates the constant repetition of the author's name and gives to each chapter the character of an editorial comment on the author's article. This is not necessarily objectionable, but we call attention to it as the latest method of text-book making.

The work is a composite from thirty-one different specialists, all Americans except the four who were drawn from Great Britain. These are not all gynecologists. It was considered best that the various departments of medical science synthetically related to gynecology should be represented by their respective specialists, pathology by a pathologist, bacteriology by a bacteriologist, dermatology by a dermatologist, etc. Consequently a single chapter may be the product of the contributions of several writers each one contributing a paragraph or more upon that part of the subject following in his department. The effort of the editor has been to render this all consecutive, systematic and homogeneous in the manner just described.

In the list of contributors appear the names of Ballantyne of Edinburgh, Murdock Cameron of Glasgow, Sinclair of Manchester, England, Coe, Dercum, Hare, Herzog, Mann, Dan Millikin, Warren Potter, Newman, Rothrock, Tabor Johnson, and others to the number, as we have said, of thirty-one. The result is on the whole a very satisfactory work. It presents in a vigorous, fresh and attractive way the present status of gynecology in all its multifarious details. It should be called a treatise on gynecology rather than a text-book, for in no way is it adapted to the student's use unless it be the post-graduate student. The ideal text-book in this specialty is yet to appear and when it does come it must be the work of one who has the faculty of omitting the doubtful, uncertain, and non-essential features, simplifying the abstruse and elaborate, and setting forth the essentials in strong and graphic light.

The book before us does honor to American gynecology. It is a valuable treatise, forceful, complete, interesting, instructive and well-illustrated. It is the latest and the best.

ANATOMIE GÉNÉRALE APPLIQUÉE A LA PHYSIOLOGIE ET A LA MÉDECINE. Par XAVIER BICHAT. Premiere Partie. Premier Fascicle. G. Steinheil, Paris.

THE author here presents a volume which he believes to be an exposition of a new point of view. The plan is to consider in detail each of the simple systems which by their combinations form our various organs, and in this substratum build up a medical system based on the individual characters of these distinctive tissues.

How well this has been done must be determined when the entire work has been given us, but from a hasty reading it would seem that the work abounded in fanciful and theoretical allusions somewhat comparable to "newspaper science" of the yellow type.

A MANUAL OF SURGICAL TREATMENT. By W. WATSON CHEYNE, M.B., F.R.C.S., Professor of Surgery in King's College, London, and F. F. BURGHARD, M.D., F.R.C.S., Surgeon to King's College Hospital, London. Volume V. The Treatment of the Surgical Affections of the Head, Face, Jaws, Lips, Larynx and Trachea; and the Intrinsic Diseases of the Nose, Ear and Larynx by H. LAMBERT LACK, M.D., F.R.C.S., Surgeon to the Hospital for Diseases of the Throat, London. Lea Brothers & Co., Philadelphia and New York.

As in the former volumes of this series, the foremost place is given to treatment of the surgical affections discussed, while diagnosis and pathology are relegated to the background. As we have previously pointed out, the volumes will, when they are completed, form a manual of surgical therapeutics which covers the entire field of surgical pathology. The present volume is no exception to its predecessors in thoroughness, in literary style, and in the description of perfect surgical technic. As has previously been the case, the authors have well described the after-treatment of surgical operations, details which are usually lacking in mere surgical text-books.

We note with pleasure that the authors do not approve of craniectomy for microcephalus, an instance which discloses clearly, we think, how they have caught the spirit of advanced modern surgery. The various plastic operations are well described, while the description of the surgical measures dealing with the special organs of respiration is exceedingly thorough and readable. The volume is profusely and well illustrated.

PATHOLOGIE GÉNÉRALE ET EXPÉRIMENTALE. LES PROCESSUS GÉNÉRAUX. I. Histoire naturelle de la maladie—Heredite—Atrophies—Degenerescence—Concretions—Gangrene. Par MM. A CHANTEMESSE, Professeur de Pathologie Experimentale, Paris, et W. W. PODWSSOTSKY, Professeur de Pathologie générale, Odessa. C. Naud, Paris.

THIS in the first contribution of 428 pages to a history of the aims and purposes of general and

experimental pathology. It is devoted to a study of those common factors which underlie abnormal function and does not attempt to enter the domain of special pathology by considering the details of the changes in any particular organ.

In introducing the general subject of sickness, the authors immediately go to the fundamental tissues and present us with a complete dissertation on cytology which leads up to the interesting topic of cellular heredity and to pathological heredity. The most recent observations of the biologist are here to be found and the discussion is well worth the reading.

Cellular nutrition is then taken up and the various atropic troubles leading to degeneration considered. This is an extremely interesting chapter, both from the standpoint of good science and for the suggestibility of the ideas set forth.

Following this the different types of degeneration, parenchymatous, hyaline, amyloid, corneus, watery, mucous, colloidal, glycogenic, fatty, pigmentary, etc., are treated in full, and illustrated with a beauty and fulness rarely seen.

Deposits, incrustations and concretions are taken up in Chapter VIII., and in Chapter IX., the concluding chapter, necrosis, mortification and gangrene are considered.

From all points of view this is a desirable addition to the works on general pathology, giving as it does the latest and best information on the subjects treated in a comprehensive and authoratative and excellent manner. The publishers have given a beautiful volume and are to be congratulated on the high character of their work.

SYPHILIS; ITS DIAGNOSIS AND TREATMENT. By WILLIAM S. GOTTHEIL, M.D., Professor of Dermatology and Syphilology, New York School of Clinical Medicine; Dermatologist to the Lebanon and Beth-Israel Hospitals, the West-Side German Dispensary, etc. G. P. Engelhard & Company, Chicago.

THIS little book is, as the author states in his preface, intended especially for the general practitioner "who treats syphilis only occasionally or incidentally." But as the subject is carefully and concisely, though, of course, most superficially described, and the advice given invariably sound and commendable, we see no reason why this little work should not find a field of usefulness beyond that mentioned by its author. There are quite a number of well-chosen and most useful illustrations, and in paper, print and binding, the publishers have left little to be desired. For a clear and attractive introduction to the study of syphilis, Dr. Gottheil's small manual may be thoroughly recommended.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

TRAITÉ DE MÉDECINE ET DE THÉRAPEUTIQUE. By Drs. P. Brouardel and A. Gilbert. Tome 8. Maladies des Pleures et du Mediastin. Maladies de l'Axe Cerebro-Spinal. Par MM. Landouzy, M. Labbé, Galliard, Menetrier, Boinet, Achard, Ballet, P. Marie, Levi and Klippel. 8vo, 848 pages. Illustrated. J. B. Bailliere et Fils, Paris.

THE DISEASES OF THE RESPIRATORY ORGANS, ACUTE AND CHRONIC. By Dr. W. F. Waugh, 12mo, 221 pages. Illustrated. G. P. Engelhard & Co., Chicago.

INTERNATIONAL CLINICS. Vol II., Eleventh Series, 1901. J. B. Lippincott Company, Philadelphia.

SEXUAL HYGIENE. 12mo, 269 pages. The Clinic Publishing Company, Chicago.

MATIÈRE MÉDICALE ZOOLOGIQUE. Par Dr. H. Beauregard. 8vo, 396 pages. Illustrated. C. Naud, Paris.

THE PATHOLOGY AND TREATMENT OF SEXUAL IMPOTENCE. By Dr. V. G. Vecki. Demi 8vo, 329 pages. Illustrated. Third Edition. W. B. Saunders & Co., Philadelphia and London.

SYPHILIS; ITS DIAGNOSIS AND TREATMENT. By Dr. W. S. Gottheil. 12mo, 216 pages. Illustrated. G. P. Engelhard & Co., Chicago.

A GUIDE TO THE CLINICAL EXAMINATION OF THE BLOOD FOR DIAGNOSTIC PURPOSES. By Richard C. Cabot, M.D. Fourth Revised Edition. 8vo, 454 pages. Illustrated. William Wood and Company, New York.

LIBERTINISM AND MARRIAGE. By Dr. Louis Jullien. Translated by R. B. Douglas. 8vo, 165 pages. F. A. Davis Company, Philadelphia.

AN INTERNATIONAL SYSTEM OF ELECTRO-THERAPEUTICS. By H. R. Bigelow, M.D. Second Edition. Edited by G. B. Massey, M.D. 8vo, 1,147 pages. Illustrated. F. A. Davis Company, Philadelphia.

TRANSACTIONS OF THE AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION. Ninth Annual Meeting. 8vo, 391 pages. Illustrated. F. A. Davis Company, Philadelphia.

A TREATISE ON THE ACUTE, INFECTIOUS EXANTHEMATA. By W. T. Corlett, M.D. 8vo, 392 pages. Illustrated. F. A. Davis Company, Philadelphia.

MANUAL OF CHEMISTRY. By D. W. Simon. 8vo, 613 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

A HAND-BOOK OF PATHOLOGICAL ANATOMY AND HISTOLOGY. By Drs. Francis Delafield and T. Mitchell Prudden. Sixth Edition. 8vo, 819 pages. Illustrated. William Wood and Company, New York.

PROGRESSIVE MEDICINE. Edited by Dr. H. A. Hare. Vol. III., Sept., 1901. Diseases of the Thorax and Its Viscera, Including the Heart, Lungs and Blood Vessels—Dermatology and Syphilis—Diseases of the Nervous System—Obstetrics. Lea Brothers & Co., New York and Philadelphia.

A MANUAL OF DETERMINATIVE BACTERIOLOGY. By Dr. F. D. Chester. 8vo, 401 pages. Illustrated. The Macmillan Company.

PROCEEDINGS OF THE NEW YORK PATHOLOGICAL SOCIETY for the Years 1899 and 1900.

THE PRINCIPLES AND PRACTICE OF MEDICINE. By Dr. William Osler. Fourth Edition. 8vo, 1,182 pages. D. Appleton and Company, New York.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. By Dr. W. A. N. Dorland. Second Edition. 8vo, 770 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

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SPECIAL ARTICLES.

THE CASE OF PRESIDENT M'KINLEY.

THE following report has received the approval of, and is issued by, the undersigned, the medical staff attending the late President, William McKinley.

P. M. RIXEY.
MATTHEW D. MANN.
HERMAN MYNTER.
ROSWELL PARK.
EUGENE WASDIN.
CHARLES MCBURNEY.
CHARLES G. STOCKTON.

October 12, 1901.

SURGICAL HISTORY.

President William McKinley was shot, by Leon F. Czolgosz, in the Temple of Music, at the Pan-American Exposition, Buffalo, N. Y., at about 7 minutes past 4 on the afternoon of Friday, September 6, 1901. Two shots were fired. One bullet struck near the upper part of the sternum, and the other in the left hypochondriac region. The President was immediately conveyed to the Emergency Hospital on the Exposition grounds by the motor ambulance, where he arrived at 4.18. Dr. G. McK. Hall and Mr. Edward C. Mann, medical student, of the house staff, were in charge of the ambulance, Medical Student T. F. Ellis being the driver.

On arriving at the hospital, President McKinley was at once placed upon the table in the operating room and undressed. During the removal of his clothing a bullet fell out and was picked up by Mr. Ellis. Dr. Hall placed a temporary antiseptic dressing over the wounds, and Mr. Mann ordered a nurse to administer 0.01 gm. of morphin and 0.002 gm. of strychnin hypodermically.

Dr. Herman Mynter, who had been telephoned from police headquarters to report immediately at the Exposition hospital, was the first surgeon to arrive, at 4.45 o'clock. At that time Drs. P. W. Van Peyma and Joseph Fowler, of Buffalo, and Dr. Edward Wallace Lee, of St. Louis, were present. Dr. Mynter brought with him Dr. Eugene Wasdin, of the United States Marine-Hospital Service.

Dr. Mynter inspected the President's wounds, and immediately saw their serious nature. He told the President that it would be necessary to operate, and at once set about making preparations, aided by the house staff and nurses and Dr. Nelson W. Wilson, Sanitary Officer of the Exposition, who at that time assumed charge of the hospital in the absence of Dr. Roswell Park, the Medical Director of the Exposition. The President's pulse on the arrival of Dr. Mynter was 84; he had no particular pain in the abdomen, and no apparent loss of liver dulness. He was evidently slightly under the influence of the morphin.

Dr. Matthew D. Mann arrived at the hospital at 5.10 p. m., having been telephoned for by Mr. John C. Milburn. He was followed, 5 minutes later, by Dr. John Parmenter.

An examination was at once made, followed by a short consultation between Drs. Mann, Mynter and Wasdin, which resulted in the decision to operate at once. The necessity for the operation was explained to President McKinley, and he gave his full consent. Immediate operation was decided upon because of the danger of possible continued internal hemorrhage and of the escape of gastric or intestinal contents into the peritoneal cavity, and because the President's pulse was getting weaker. Moreover, the daylight was rapidly failing. Dr. Roswell Park, who, by virtue of his office, had he been present would have performed the operation, was at Niagara Falls, and although a special train had been sent for him, it was uncertain when he would arrive.

Dr. Mann was selected to do the operation, with Dr. Mynter as his associate, by the common consent of the physicians present and at the request of Mr. Milburn, president of the Pan-American Exposition, who stated that he had been requested by President McKinley to select his medical attendants. Dr. Mann selected Drs. Lee and Parmenter as assistants.

At 5.20 Dr. Mann directed the administration of ether to President McKinley, and requested Dr. Wasdin to administer it. Ether was chosen as being, on the whole, the safer anesthetic. While the anesthetic was being given the surgeons who were to take part in the operation prepared their hands and arms by thoroughly scrubbing with soap and water and immersing them in a solution of mercuric chlorid.

The operation began at 5.29. Dr. Mann stood upon the right-hand side of the patient, with Dr. Parmenter on his right-hand side. Dr. Mynter stood upon the left-hand side of the patient, and on his right was Dr. Lee. To Drs. Parmenter and Lee were assigned the duties of sponging and the care of the instruments. Dr. P. M. Rixey, U. S. N., President McKinley's family physician, having been detailed by the President to accompany Mrs. McKinley to the Milburn home, did not arrive until 5.30, when he gave very efficient service by guiding the rays of the sun to the seat of the operation by aid of a hand-mirror, and later by arranging an electric light. Dr. Roswell Park arrived just as the operation on the stomach was completed, and gave his aid as consultant. Mr. E. C. Mann had charge of the needles, sutures and ligatures. Mr. Simpson, medical student, was at the instrument tray.

The nurses, under the charge of Miss A. C. Walters, superintendent of the hospital, were Miss M. E. Morris and Miss A. D. Barnes, with hands sterilized; Miss Rose Baron, Miss M. A. Shannon and Miss L. C. Dorchester, assistants, and Miss Katharine Simmons attending the anesthetizer.

Besides those immediately engaged in the operation, there were present Drs. P. W. Van Peyma, Joseph Fowler, D. W. Harrington and Charles G. Stockton, of Buffalo, and Dr. W. D. Storer, of Chicago.

THE OPERATION.

President McKinley took the ether well, and was entirely under its influence in 9 minutes after the beginning of the anesthetization. The abdomen was carefully shaved and scrubbed with green soap, and then washed with alcohol and ether and the bichlorid solution.

Inspection showed 2 wounds made by the bullets. The upper one was between the second and third ribs, a little to the right of the sternum. The use of a probe showed that the skin had not been penetrated, but that the bullet had probably struck a button or some object in the clothing which had deflected it. The lower wound made by the other bullet—a 32 caliber—was on a line drawn from the nipple to the umbilicus. It was about half-way between these points, and about 5 cm. to the left of the median line. A probe showed that this wound extended deeply into the abdominal walls, and that the direction was somewhat downward and outward.

An incision was made from the edge of the ribs downward, passing through the bullet wound and nearly parallel with the long axis of the body. A deep layer of fat was opened, and followed by incision of the fascia and muscles to the peritoneum. After cutting through the skin, a piece of cloth, undoubtedly a bit of the

President's clothing, was removed from the track of the bullet, a short distance below the skin.

On opening the peritoneum, the finger was introduced and the anterior wall of the stomach palpated. An opening was discovered which would not quite admit the index finger. This opening was located near the greater curvature of the stomach, and about 2 cm. from the attachment of the omentum; its edges were clean-cut and did not appear to be much injured.

The stomach was drawn up into the operation wound, and the perforation very slightly enlarged. The finger was then introduced and the contents of the stomach palpated. This was done to see if the stomach contained food, and also with the hope that possibly the bullet might be in the stomach. The stomach was found to be half-full of liquid food, but no evidence of the ball was discovered. In pulling up the stomach a small amount of liquid contents escaped, together with a good deal of gas. The tissues around the wound were carefully irrigated with hot salt solution and dried with gauze pads. The perforation in the anterior stomach wall was then closed with a double row of silk suture (Czerny-Lembert). The sutures were not interrupted with each stitch, but 4 stitches were introduced before the ends were tied. The loop was then cut off and the suture continued. About 8 stitches were used in each row. The silk used was fine black silk, the needle being a straight, round sewing needle.

In order to examine the posterior wall of the stomach, it was necessary to enlarge the incision, which now reached about 15 cm. in length. The omentum and transverse colon were pulled well out of the abdomen. The omentum was enormously thickened with fat and very rigid. In order to reach the back wall of the stomach, it was necessary to divide about 4 inches of the gastrocolic omentum, the cut ends being tied with strong black silk in 2 masses on each side. In this way the stomach could be drawn up in the operation wound, and the bullet wound in its posterior wall reached. This opening was somewhat larger than that in the anterior wall of the stomach, and had frayed and blood-infiltrated edges. Its exact location was impossible to determine, but it appeared to be near the larger curvature.

This opening was closed in the same way as the anterior wound, but with great difficulty, as the opening was down at the bottom of a deep pocket. A short curved surgical needle was necessary here. Little or no gastric contents appeared around this opening, but after it had been closed the parts were carefully irrigated with hot salt soltuion.

The operation on the stomach being now finished, Dr. Mann introduced his arm so as to palpate carefully all the deep structures behind the stomach. No trace of the bullet or of the further track of the bullet could be found. As the introduction of the hand in this way seemed to have a bad influence on the President's pulse, prolonged search for further injury done by the bullet or for the bullet itself was desisted from. The folds of the intestine which had been below the stomach were inspected for injury, but none was found. The entire gut was not removed from the abdomen for inspection, as the location of the wound seemed to exclude its injury. To have made a satisfactory search for wounds in the President's back, it would have been necessary to have entirely eviscerated him. As he was already suffering from shock, this was not considered justifiable, and might have caused his death on the operating table.

Before closing the abdominal wound, Dr. Mann asked each of the surgeons present, whether he was entirely satisfied that everything had been done which should be done, and whether he had any further suggestions to make. Each replied that he was satisfied. The question of drainage was also discussed. Dr. Mynter was in favor of a Mikulicz drain being placed down behind the stomach-wall. Dr. Mann, with the concurrence of the other surgeons, decided against this, as being unnecessary.

As the last step in the operation, the tissues around the bullet track in the abdominal wall were trimmed, in order to remove any tissue which might be infected. The abdominal wound was then closed with 7 through-and-through silkwormgut sutures, drawn only moderately tight, the superior layer of the fascia of the rectus muscle being joined with buried catgut. The edges of the skin were brought together by fine catgut sutures. Where the bullet had entered there was slight gaping of the tissues, but it was not thought advisable to close this tightly, as it might allow of some drainage. The wound was then washed with hydrogen dioxid and covered with aristol powder and dressed with sterilized gauze and cotton, which were held in place with adhesive straps. Over all was put an abdominal bandage.

The President bore the operation very well. The time from the beginning of the administration of the anesthetic until its discontinuance was exactly an hour and 31 minutes; the operation was completed at 6.50 p. m., having lasted from the time of the first incision, an hour and 21 minutes. At the beginning of the operation President McKinley's pulse was 84. At 5.38, 0.002 gm. of strychnin was administered hypodermically. At 5.55 the respiration was 32 and the pulse 84—both good in character. At 6.09 the pulse was 88. At 6.20 it was 102, fair in character; respiration 39. At 6.22, 1.50 gm. of brandy was administered hypodermically. At 6.48 the pulse was 124, the tension good but quick; respiration 36. At 7.01, after the bandage was applied, the pulse was 122 and the respiration 32. At 7.17, 0.004 gm. of morphin was administered hypodermically.

At 7.32 the patient was removed from the hospital in the ambulance. Dr. Rixey asked Drs. Park and Wasdin to go in the ambulance, as his duty called him to go at once to inform Mrs. McKinley of her husband's condition and to prepare a room for his reception. Drs. Mann and Mynter, with friends of the President, followed in carriages immediately after. President McKinley had not then recovered from the anesthetic. He bore the journey to Mr. Milburn's house exceedingly well, but it was found necessary to give him a small hypodermic injection of morphin during the transit, as he was becoming very restless. On arrival at the house of Mr. Milburn, 1168 Delaware Avenue, he was removed from the ambulance on the stretcher, and carried to a room in the northwest corner of the house, where a hospital bed had been prepared for him.

REMARKS ON THE OPERATION.

BY MATTHEW D. MANN. M.D.

The difficulties of the operation were very great, owing partly to the want of retractors and to the failing light. The setting sun shone directly into the room, but not into the wound. The windows were low and covered with awnings. After Dr. Rixey aided us with a hand mirror, the light was better. Toward the end of the time a movable electric light with reflector was put in use. The greatest difficulty was the great size of President McKinley's abdomen and the amount of fat present. This necessitated working at the bottom of a deep hole, especially when suturing the posterior wall of the stomach.

The operation was rendered possible and greatly facilitated by a good operating table and the other appliances of a hospital, and by the presence of many trained nurses and assistants. Still, the hospital was only equipped for minor emergency work, and had but a moderate supply of instruments. Unfortunately, when called I was not told what I was wanted for, and went to the Exposition grounds entirely unprepared. Dr. Mynter had his large pocket case, the contents of which were of great use.

As has already been noted, further search for the bullet was rendered inadvisable by the President's condition. The autopsy shows that it could not have been found, and that the injuries inflicted by the bullet after it passed through the stomach, were of such a nature as to render impossible and unnecessary any further surgical procedure. A bullet after it ceases to move does little harm. We were often asked why, after the operation, we did not use the x-ray to find the bullet. There were several reasons for this. In the first place, there were, at no time any signs that the bullet was doing harm. To have used the x-ray simply to have satisfied

our curiosity would not have been warrantable, as it would have greatly disturbed and annoyed the patient, and would have subjected him also to a certain risk. Had there been signs of abscess-formation, then the rays could and would have been used.

My reason for not draining was that there was nothing to drain. There had been no bleeding nor oozing; there was nothing to make any discharge or secretion; the parts were presumably free from infection, and were carefully washed with salt solution. As there was no peritonitis and the abdomen was found post mortem to be sterile, we may safely conclude that no drainage could have been provided which would have accomplished anything. My experience teaches me never to drain unless there is a very decided indication for it, as a drain may do harm as well as good.

In conclusion, I wish to thank all the gentlemen who so kindly and skilfully assisted me. They were all surgeons of large experience in abdominal surgery, and their aid and advice were most valuable. Especially I wish to acknowledge my great obligation to my associate, Dr. Mynter. Not only was he an assistant, but he was much more, and helped me greatly by his skill and, as a consultant, with his good judgment and extensive knowledge of abdominal work. Although called first, he waived his claim, and generously placed the case in my hands, willingly assuming his share of the responsibility.

The anesthetic was most carefully administered by Dr. Wasdin, and the knowledge that he had charge of this very important duty relieved me of any anxiety on that score.

In the eventful week that followed the operation, Dr. Park and Dr. McBurney were towers of strength in helping to decide the many difficult questions which came up.

Dr. Rixey was in constant charge of the sick-room, aided later by Dr. Wasdin, who was detailed for this special duty. Both were unremitting in their care, and faithful to the end.

Dr. Stockton helped us in the last 3 days with the highest skill and best judgment.

Never, I am sure, under like circumstances, was there a more harmonious or better-agreed band of consultants. That our best endeavors failed was, I believe, no fault of ours; but it must be an ever-living and keen regret to each one of us, that we were not allowed the privilege of saving so noble a man, so attractive a patient, and so useful a life.

THE AFTER-TREATMENT.

When put to bed the President was in fair condition: Pulse, 127; temperature, 100.6°; respiration, 30. The nurses on duty were Miss K. R. Simmons and Miss A. D. Barnes, from the Emergency Hospital. Soon after his arrival, at 8.25, he was given morphin, 0.016 gm., hypodermically. There was slight nausea. The pulse soon improved. During the evening the patient slept at intervals, vomiting occasionally, but rallied satisfactorily. A slight discoloration of the dressings was noted at 10.45. There was occasional and slight pain. Ninety cc. of urine was voided, and an enema of salt solution given and retained.

SECOND DAY, SATURDAY, SEPTEMBER 7.

After midnight the patient slept a good deal; he was free from pain and quite comfortable.

At 6 a. m., the temperature was 102°; pulse, 110; respiration, 24.

Gas in large quantities was expelled from the bowels. A saline enema was given as before. Miss Simmons and Miss Barnes were replaced by Miss Maud Mohan and Miss Jane Connolly. Miss E. Hunt, of San Francisco, Cal., Mrs. McKinley's nurse, also rendered assistance, and Miss Grace Mackenzie, of Baltimore, Md., arrived September 9, and was detailed for regular duty. P. A. Eliot, J. Hodgins and Ernest Vollmeyer, of the U. S. A. Hospital Corps, were detailed as orderlies.

During the forenoon, 0.01 gm. of morphin was administered hypodermically.

At 1.15 p. m., a saline enema of 500 cc. was given. As the pulse was rising, 0.06 gm. of fluid extract of digitalis was injected hypodermically.

The President rested quietly until 6.30 p. m., when he complained of intense pain in the pit of the stomach, and was given 0.008 gm. of morphin sulphate hypodermically. He was very restless, but after being sponged rested again.

At 6.30 p. m., the pulse was 130; temperature, 102.5°; respiration, 29.

During the day the digitalis, morphin and saline enemas were kept up at regular intervals; 4 gm. of somatose was added to the water at 10.30 p. m. At 11.15 p. m. the President passed from the bowels 240 cc. of a greenish colored fluid and some particles of fecal matter.

The total amount of urine for 24 hours was 270 cc.

FIRST URINALYSIS, BY DR. H. G. MATZINGER.

Quantity	30 cc.
Color	dark amber
Reaction	strongly acid
Urea	0.028 gm. per 1 cc. of urine
Albumin	a trace
Phosphates and chlorids	normal
Sugar	none
Indican	very small amount

Microscopical Examination.—The sediment obtained by centrifuge shows a large amount of large and small epithelial cells with some leukocytes and occasional red cells. There is a comparatively large number of hyaline casts, principally small, with some finely granular ones; also an occasional fibrinous one. The amount of sediment is large for the quantity of urine submitted. There were no crystals in the sediment.

THIRD DAY, SUNDAY, SEPTEMBER 8.

During the early morning the President slept a good deal, but was restless, and at times confused and a little chilly. On the whole, he passed a fairly good night.

He expelled a little gas and brown fluid from the rectum. The digitalis was continued, and at 7.45 a. m., 0.002 gm. of strychnin were given hypodermically. At 8.20 a. m. he was clear and bright, with the pulse strong and of good character.

The wound was dressed at 8.30, and found in a very satisfactory condition. There was no indication of peritonitis. Pulse, 132; temperature, 102.8°; respiration, 24.

The dressing on the wound was changed because there was some exudation. The bullet track was syringed out with hydrogen dioxid. There was very little foaming, and there were no signs of pus.

At 10.40 a. m., following an enema of Epsom salts, glycerin and water, he had a small stool with gas, and another at noon. He was less restless and slept a good deal.

At noon Dr. Charles McBurney joined the medical staff in consultation.

Bulletin 14, 12 m.—The improvement in the President's condition has continued since the last bulletin. Pulse, 128; temperature, 101°; respiration, 27.

During the early morning the President slept 4 or 5 hours and his condition was satisfactory.

At 4.45 p. m., he was given a teaspoonful of water by the mouth; also an enema of sweet oil, soap and water. He passed slightly colored fluid with some little fecal matter and mucus. After this he had a small quantity of water by the mouth, and at 6.20 p. m. a nutritive enema of egg, whisky and water, which was partly retained. Digitalis and strychnin were both given during the evening.

At 9 p. m. the President was resting comfortably. The pulse was 130; temperature, 101.6°; respiration, 30.

Four hundred and twenty cc. of urine was passed during the day.

SECOND URINALYSIS.

Quantity	450 cc.
Color	amber, slightly turbid
Reaction	strongly acid

Specific gravity..... 1.026
Urea.....0.038 gm. per 1 cc. of urine
Albumin..... mere trace
Sugar.....none
Indican..... abundant
Sulphates.....increased
Phosphates.....somewhat increased
Chlorids..... somewhat increased

Microscopical Examination.—Microscopic examination of sediment obtained by centrifuge shows fewer organic elements. Some large and small epithelial cells and some leukocytes. Casts are not so abundant as yesterday and are *principally* of the small finely granular variety. There is a marked diminution in small renal epithelial cells.

Quite a quantity of large crystals of uric acid and bacteria are present.

FOURTH DAY, MONDAY, SEPTEMBER 9.

The bulletins tell the story of the fourth day.

Bulletin 17, 6 a. m.—The President passed a somewhat restless night, sleeping fairly well. General condition unchanged. Pulse, 120; temperature, 101°; respiration, 28.

Bulletin 18, 9.20 a. m.—The President's condition is becoming more and more satisfactory. Untoward incidents are less likely to occur. Pulse, 122; temperature, 100.8°; respiration, 28.

Bulletin 19, 3 p. m.—The President's condition steadily improves and he is comfortable, without pain or unfavorable symptoms. Bowel and kidney functions normally performed. Pulse, 113; temperature, 101°; respiration, 26.

Bulletin 20, 9.30 p. m.—The President's condition continues favorable. Pulse, 112; temperature, 101°; respiration, 27.

Codeia was substituted for morphia, as the pain was less. Digitalis and strychnin were stopped. Nutritive enemas were given at 3.20 a. m., at 4.30 and 10 p. m. Hot water was taken quite freely by the mouth.

Attempts to get a good movement of the bowels were successful at noon, when he had a large light-brown partly-formed stool. This followed a small dose of calomel and a high enema of oxgall.

On the whole, the President's condition improved steadily during the day. He slept a good deal and was fairly comfortable. There was no pain on pressure over the abdomen.

THIRD URINALYSIS.

Quantity received..... 540 cc.
Color.....amber, slightly turbid
Specific gravity..... 1.026
Albumin.....a trace
Indican.....not so abundant as yesterday
Urea..... 0.047 gm. per cc. of urine
Chlorids and phosphates... about normal
Sulphate.....still somewhat high
Sugar..... none

Microscopical Examination.—Microscopic examination of sediment obtained by centrifuge shows a decrease in the amount of organic elements and an increase of amorphous urates, but fewer crystals of uric acid. Casts are fewer and only the small granular and large hyaline varieties. The proportion of casts is greater. There are very few epithelial cells, mostly of renal type. A large number of cylindroids are found.

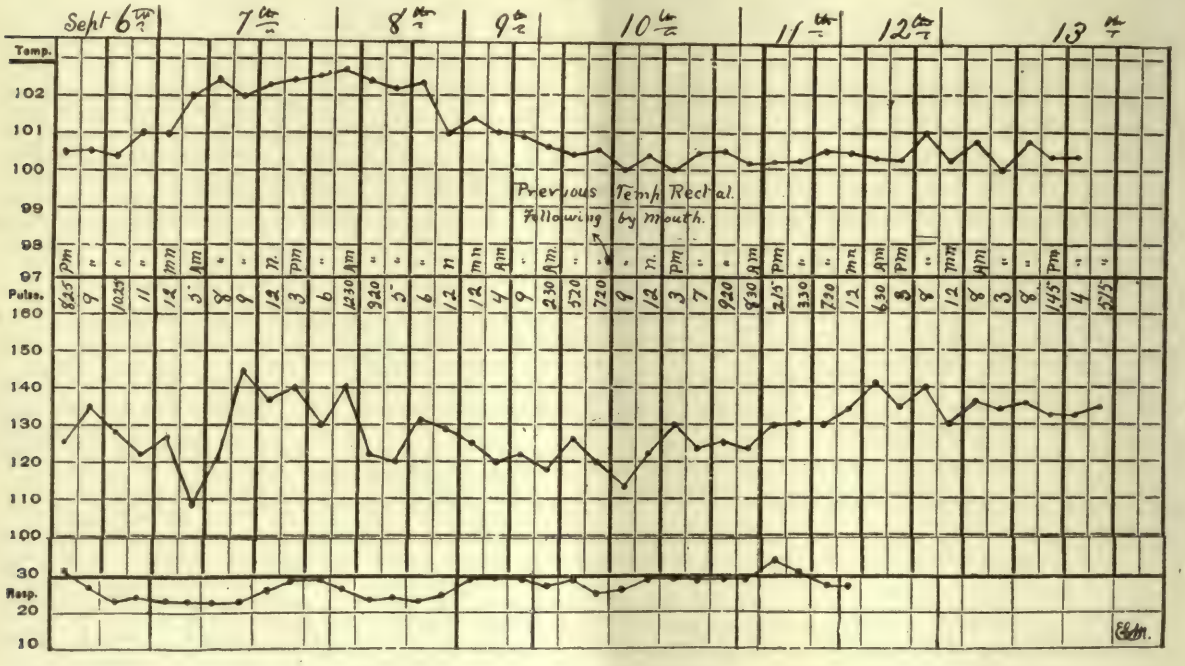
FIFTH DAY, TUESDAY, SEPTEMBER 10.

Soon after midnight the President had a high enema of soap and water, which was expelled, together, with some fecal matter. He took hot water frequently, and slept a good deal.

Bulletin 21, 5.20 a. m.—The President has passed the most comfortable night since the attempt on his life. Pulse, 118; temperature, 100.4°; respiration, 28.

On awakening he felt very comfortable, and his mind was clear and cheerful. The nutritive enemas were kept up, and water given by the mouth. Had 2 small stools during the day. The only medicine given was one hypodermic of codeia phosphate, 0.015 gm.

In the evening the dressings were examined, and as there was considerable staining from the discharge, it was thought best to remove 4 stitches and separate the edges of the wound. A little slough was observed near the bullet track, covering a space nearly an inch wide, the thickness of the flaps. The separation seemed to extend down to the muscle. The surfaces, except those mentioned, looked healthy, but not granulating. It was supposed that the infection of the wound occurred either from the bullet or from the piece of clothing carried into the wound at the time of the shooting. The parts were thoroughly washed with hydrogen dioxid and packed lightly with gauze, and held together with adhesive straps.



SIXTH DAY, WEDNESDAY, SEPTEMBER 11.

Bulletin 26, 9 a. m.—The President rested comfortably during the night. Decided benefit has followed the dressing of the wound made last night. His stomach tolerates the beef juice well, and it is taken with great satisfaction. His condition this morning is excellent. Pulse, 116; temperature, 100.2°.

Bulletin 27, 3.30 p. m.—The President continues to gain, and the wound is becoming more healthy. The nourishment taken into the stomach is being gradually increased. Pulse, 120; temperature, 100.2°.

Bulletin 28, 10 p. m.—The President's condition continues favorable. Blood count corroborates clinical evidence of the absence of any blood poisoning. He is able to take more nourishment and relish it. Pulse, 120; temperature, 100.4°.

The blood count made by Dr. Wasdin in the evening was as follows:

Leukocytes	6,752.
Red cells	3,920,000.

A little after midnight, Wednesday morning, the patient was given 4 cc. of beef juice, the first food taken by the stomach. It seemed to be very acceptable. Nutritive enema was given at 2 a. m.; later there was a yellow stool.

From 4 to 8 cc. of beef juice was given every 1 to 2 hours during the day. The rectum was becoming irritable, and did not retain the nutritive enemas well.

At 10 a. m. the remaining stitches were removed, the wound separated and dressed. It seemed to be doing well. Most of the sloughing tissue had separated.

The patient slept much during the day, and expressed himself as feeling very comfortable. The only medicine administered was one hypodermic of strychnin.

In the evening he was changed to a fresh bed. Nutritive enemas were continued.

Urine was passed much more freely—750 cc. in 24 hours.

FOURTH URINALYSIS.

Quantity	82 cc.
Color	amber, clear
Specific gravity	1.027
Reaction	strongly acid
Albumin	a trace
Indican	abundant
Urea	0.04 gm. per 1 cc. of urine
E. phosphates and chlorids	normal
Sulphates	still a little high

Microscopical Examination.—Microscopic examination of sediment obtained by centrifuge shows a marked diminution in amount of organic elements, but a great increase in uric acid crystals.

There are very few epithelial cells—mostly of renal type.

There are fewer casts—small and large hyaline—some finely granular.

Cylindroids are more abundant.

SEVENTH DAY, THURSDAY, SEPTEMBER 12.

The President slept a good deal during the night, and awoke in the morning feeling better. The beef juice was continued and increased, and a little chicken broth added to the dietary. He also had a little whiskey and water.

At 8.30 a. m. he had chicken broth, a very small piece of toast and a small cup of coffee. He did not care for the toast, and ate scarcely any of it.

The wound was dressed and washed with a weak solution of iodin and then with hydrogen dioxid. He was given 30 cc. of castor oil at 9.20 a. m.

The President now seemed at his best and his condition to warrant the favorable prognosis given out. The time for peritonitis and sepsis had passed. The bowels had moved and gas passed freely, showing that there was no obstruction. The tongue was clear, and the appetite increasing; and he seemed to be able to digest food. There was no pain nor tenderness in the abdomen, and he was able to turn easily and to sleep on his side. The urine was steadily increasing. His spirits were good and his mind clear, while his pulse, though frequent, was strong and of good quality, and the temperature low.

The analysis of the urine gave no uneasiness, as the amount of urea was fair; there was no albumin worth considering, and the casts were rapidly diminishing. There were no more of them than are found in a large percentage of cases following a long operation under ether. The excess of indican was taken to mean merely some intestinal indigestion, and to be of no serious import. The only symptom to cause any uneasiness was the frequency of the pulse. Still, anxiety on this score was relieved by knowing that the President had naturally a rapid pulse, and that it was easily excited. The open wound was not considered important. It looked healthy, and, although it would take a long time to heal, in itself it was evidently causing no harm, nor was it likely to.

Dr. McBurney left Buffalo for his home in the morning, having arranged to return at once if his presence was desired.

Toward noon it was noticed that the character of the pulse was not quite so good. Infusion of digitalis, 8 cc., was ordered, and strychnin, 0.002 gm.

It was thought probable that there was some intestinal toxemia, as there had been no free movement from the bowel since food had been begun, the oil having failed to act. Gradually the pulse went to 130, and grew weaker.

Dr. Charles G. Stockton was added to the medical staff in consultation. At 7 p. m. the President was given 0.20 gm. of calomel.

Bulletin 32, 8.30 p. m.—The President's condition this evening is not quite so good. His food has not agreed with him, and has been stopped. Excretion has not yet been properly established. The kidneys are acting well. His pulse is not satisfactory, but has improved in the last 2 hours. The wound is doing well. He is resting quietly. Temperature, 100.2°; pulse, 128.

At 9.30 p. m. a second dose of 30 cc. of castor oil was given, followed by a high enema of oxgall. This resulted in a large, dark semifluid stool, which seemed to exhaust him somewhat. Stimulants were given freely. No more beef juice or food was given. The pulse grew rapidly worse, but at midnight there seemed some improvement, as bulletin 33 shows. At 11 p. m. 420 cc. of normal salt solution was given subcutaneously.

Bulletin 33, 12 m.—All unfavorable symptoms in the President's condition have improved since the last bulletin. Pulse, 120; temperature, 100.2°.

FIFTH URINALYSIS.

Quantity	132 cc.
Color	light amber, very turbid
Specific gravity	1.025
Reaction	acid
Albumin	mere trace, if any
Indican	less
Urea	0.044 gm. per 1 cc. of urine
Sulphates	about normal
E. phosphates	much increased
Chlorids	normal

Microscopical Examination.—Microscopic examination of sediment obtained by centrifuge, shows fewer organic elements than the last examination. There is less uric acid and a large amount of amorphous phosphates. Renal casts, about as in the last examination, with very few cylindroids.

EIGHTH DAY, FRIDAY, SEPTEMBER 13.

At midnight the pulse was fairly good, 132. Strychnin and whisky were given at intervals, and hypodermics of camphorated oil.

Bulletin 34 2.50 a. m.—The President's condition is very serious, and gives rise to the gravest apprehension. His bowels have moved well, but his heart does not respond properly to stimulation. He is conscious. The

skin is warm, and the pulse small, regular, easily compressible, 126; respiration, 30; temperature, 100°.

The wound had been dressed regularly in the manner described 3 times a day. At 9 a. m. the dressing was changed, and a mixture of balsam of Peru and glycerin put in on gauze after the douching.

Stimulants were continued as before, but more freely. Coffee, 45 cc., and clam broth, 60 cc., were given; also liquid peptonoids.

At 8.30, 1.50 gm. of adrenalin was given hypodermically, and repeated at 9.40.

At 10 a. m., nearly 2 pints of normal salt solution were given under the skin, and a pint containing adrenalin at 6 p. m. Nitroglycerin and camphor were also injected at various times, together with brandy and strychnin.

Stimulants as detailed above were used freely all day.

3.30 p. m. Pulse growing weaker.

5.00 p. m. Oxygen given and continued for some hours.

6.30 p. m. Last bulletin, No. 39:

Bulletin 39, 6.30 p. m.—The President's physicians report that his condition is most serious in spite of vigorous stimulation. The depression continues and is profound. Unless it can be relieved, the end is only a question of time.

At 6.35 p. m., and again at 7.40, morphin was given hypodermically, as he was very restless and seemed to be suffering.

9.00 p. m. Heart sounds very feeble.

The President continued to sink, becoming weaker and weaker.

At 10.00 p. m., the oxygen was discontinued. The heart sounds were very feeble and consciousness lost.

The President died at 2.15 a. m., September 14.

Drs. E. J. Janeway and W. W. Johnston, who, at the request of Dr. Rixey, had been summoned in consultation, arrived too late, but were present at the autopsy. Dr. McBurney also returned on Friday afternoon.

SIXTH URINALYSIS.

Color	amber, turbid, with phosphates
Quantity	252 cc.
Reaction	acid
Specific gravity	1.023
Albumin	mere trace, if any
Urea	0.047 gm. per 1 cc. urine
Indican	a trace
E. phosphates	increased
Chlorids	normal
Sulphates	a little high

Microscopical Examination.—Microscopical examination of sediment obtained by centrifuge, before and after clearing, shows no change from yesterday's sample. Casts, hyaline and granular, both large and small, comparatively few. Cylindroids, a few. Crystals, large amount of uric acid, some sodium urate, and in the untreated specimen a large amount of amorphous deposit, principally of phosphates. There are a few epithelial cells, small, granular. Occasional red cells and leukocytes.

REPORT ON THE AUTOPSY.[1]

BY HARVEY R. GAYLORD, M.D.

Ordinary signs of death: ecchymosis in dependent portions of the body. Rigor mortis well marked. Upon the surface of the chest, to the right of the midsternal line, a spot 1 cm. in diameter, dark-red in color, with a slight crust formation covering it, 5.5 cm. from the suprasternal notch; from the right nipple, 10 cm.; from the line of the right nipple, 8.25 cm. Surrounding this spot, at which point there is an evident dissolution of the continuity of the skin, is a discolored area of oval shape extending upward and to the right. In its greatest length it is 11 cm.; and in its greatest width, 6 cm. It extends upward in the direction of the right shoulder. The skin within this area is discolored, greenish-yellow and mottled.

The surface of the abdomen is covered with a surgical dressing, which extends down to the umbilicus and upward to just below the nipples. The innermost layer of cotton is covered or stained with balsam of Peru and blood. On removing this dressing, a wound, parallel to, and somewhat to the left of, the median line, is exposed, inserted in which are 2 layers of gauze, likewise impregnated with balsam of Peru. The wound is 14.5 cm. in length, and is open down to the abdominal muscles. The layer of abdominal fat is 3.75 cm. in thickness. The appearance of the fat is good, a bright yellow in color. No evidence of necrosis or sloughing. In the left margin of the surgical wound, lying 1 cm. to the right of a line drawn from the umbilicus to the left nipple, 15.5 cm. from the nipple and 16.5 cm. from the umbilicus is a partly healed indentation of the skin, and an excavation of the fat immediately beneath it (this is the site of the entry of the bullet), extending down to the peritoneal surface. On making the median incision, starting from the suprasternal notch and extending to a point just below the symphysis, the subcutaneous fat is exposed, which is of bright yellow color and normal appearance except in an area which corresponds superficially to the area of discoloration described as surrounding the wound upon the chest wall. This area marks the site of a hemorrhage into the subcutaneous fat. The remainder of the subcutaneous fat is firm and measures 4.75 cm. in thickness on the abdominal wall. On opening the sheath of the right rectus muscle, it is seen to be of dark-red color. (Culture taken from ecchymotic tissue under the upper bullet hole and from between the folds of the small intestine. Three tubes from each locality on agar and gelatin.)

On opening the abdominal cavity, the parietal surface of the peritoneum is exposed, and is found to be covered with a slight amount of bloody fluid; is perfectly smooth and not injected. The great omentum extends downward to a point midway between the umbilicus and the symphysis. It is thick, firm; its inferior border is discolored by coming in contact with the intestines. Below the umbilicus a few folds of intestines are exposed. These are likewise covered with discolored blood, after the removal of which the peritoneal surface is found to be shiny. On the inner aspect of the abdominal wound the omentum is found to be slightly adherent to the parietal peritoneum, and can be readily separated with the hand from the edge of the wound. At this point the omentum is somewhat injected. This adhesion to the omentum is found to extend entirely around the abdominal wound. The parietal peritoneum immediately adjacent to the inner aspect of the abdominal wound is ecchymotic.

On removing the subcutaneous fat and muscles from the thoracic wall, the point which marks the dissolution of continuity of the skin upon the surface, is found to lie directly over the margin of the sternum and to the right side between the second and third ribs. There is no evidence of ecchymosis or injury to the tissues or muscles beneath the subcutaneous fat. On making an incision through the subcutaneous fat, directly through the wound upon the chest, a small cavity is exposed about the size of a pea just beneath the skin which is filled with fluid blood. The subcutaneous tissue underlying the area of discoloration on the surface of the chest wall shows hemorrhagic infiltration.

On removing the sternum, the lungs are exposed, and do not extend far forward. A large amount of pericardial fat is exposed. Pleural surface on both sides is smooth. There are no adhesions on either side within the pleural cavities. The diaphragm on the right side extends upward to a point opposite the third rib in the mammary line. No perceptible amount of fluid in either pleural cavity. On opening the pericardial cavity, the surface of the pericardium is found to be smooth and pale. The pericardium contains approximately 6 cc. of straw-colored, slightly turbid fluid. (Some taken for examination.)

On exposing the heart, it is found covered with a well-developed panniculus. The heart measures, from the base to the apex, on the superficial aspect, 10.5 cm. The right ventricle is apparently empty. The heart feels soft and flaccid. On opening the left ventricle, a small

[1] The autopsy was performed by Drs. Gaylord and Matzinger of the New York State Pathological Laboratory.

amount of dark-red blood is found. The muscle of the left ventricular wall is 1.5 cm. in thickness; dark reddish-brown in color; presents a shiny surface. The average thickness of the pericardial fat is 3.5 mm. (Cultures made from the auricle.) The left auricle contains but a small amount of dark currant-colored blood. The mitral valve admits 3 fingers. The right ventricle, when incised in the anterior line, is found to be extremely soft; the muscular structure is 2 mm. in thickness. The panniculus measures 7 mm. The muscle is dark red in color; very shiny, and the pericardial fat invades the muscular wall at many points.

On opening the right auricle it is found to be filled and distended by a large currant-colored clot, which extends into the vessels. The tricuspid orifice admits readily 3 fingers. The coronary arteries are patulous and soft; no evidence of thickening.

Lungs are gray color, and contain a moderate amount of coal-dust pigment. Slight amount of frothy fluid escapes from the bronchi; but the pulmonary tissue is crepitant and free from exudate.

On unfolding the folds of intestine, there is no evidence of adhesion until a point just beneath the mesocolon is reached, when, on removing a fold of small intestine, a few spoonfuls of greenish-gray thick fluid flows into the peritoneal cavity.

On the anterior gastric wall is an area to which a fold of the gastrocolic omentum is lightly adherent. On breaking the adhesion there is found a wound about midway between the gastric orifices, 3.5 cm. in length, parallel with the greater curvature of the stomach, 1.5 cm. from the line of omental attachment. This wound is held intact by silk sutures. There is no evidence of adhesion at any other point on the anterior wall. The gastric wall surrounding the wound just mentioned for a distance of 2 cm. to 3 cm. is discolored, dark greenish-gray in appearance, and easily torn. On exposing the posterior wall of the stomach from above, along its greater curvature, the omentum is found to be slightly adherent, a line of silk ligatures along the greater curvature of the stomach marking the site where the omentum had been removed. On throwing the omentum downward, the posterior gastric wall is exposed. On the posterior wall, a distance of 2 cm. from the line of omental attachment, is a wound approximately 2 cm. long, held intact by silk sutures. The gastric wall surrounding this wound is discolored. On the surface of the mesocolon, which is posterior to the gastric wall at this point, is a corresponding area of discoloration, the portion coming directly in contact with the wound in the gastric wall being of dull gray color. The remainder of the surface of the posterior wall of the stomach is smooth and shiny. Beyond the surgical wound in the posterior wall of the stomach is found an opening in the retroperitoneal fat, large enough to admit 2 fingers. This opening communicates with a track which extends downward and backward as far as the finger can reach. The tissues surrounding this track are necrotic . On removing the descending portion of the colon, a large irregular cavity is exposed, the walls of which are covered with gray, slimy material, and in which are found fragments of necrotic tissue. Just at the superior margin of the kidney is located a definite opening which forms the bottom of the track traced from the stomach. On stripping the left kidney from its capsule, it is found that the superior portion of the capsule is continuous with the cavity. The weight of the left kidney is 5 oz. 1 gr. The kidney is readily stripped from its capsule; is dark red; the stellate veins are prominent, and along its greater curvature are numerous dark red depressions. On the superior aspect of the kidney is a protrusion of the cortex, dark red in color, and in this protrusion is a laceration 2 cm. long, extending across the superior border, approximately at right angles to the periphery of the kidney and from before backward. On incising the kidney, the cortex and medulla are not easily distinguishable from one another; both are of rose-red color, the cortex measuring approximately 6 mm. in thickness. The vessels in the pyramids of Ferrein are very prominent. Beneath the protruding portion of the surface, the cortex is dark red in color. This discoloration extends downward in pyramidal form into the medulla. The laceration of the surface marks the apex of the protrusion of the kidney substance. Between the spleen and the superior aspect of the kidney is a necrotic tract which extends down and backward, and ends in a blind pocket. The tract which included the superior aspect of the kidney can be traced into the perinephritic fat to a point just above the surface of the muscles of the back.

The necrotic cavity which connects the wound on the posterior wall of the stomach and the opening adjacent to the kidney capsule is walled off by the mesocolon, and is found to involve an area of the pancreas, approximately 45 mm. in diameter and extending about half-through the organ. This organ at its center forms part of the necrotic cavity. Through its body are found numerous minute hemorrhages and areas of gray softening, the size of a pea or smaller. These are less frequent in the head portion of the pancreas.

A careful examination of the track leading down toward the dorsal muscles fails to reveal the presence of any foreign body. After passing into the fat, the direct character of the track ceases, and its direction can be traced no further. The adjoining fat and the muscles of the back were carefully palpated and incised, without disclosing a wound or the presence of a foreign body. The diaphragm was carefully dissected away, and the posterior portion of the thoracic wall likewise carefully examined. All fat and organs which were removed, including the intestine, were likewise examined and palpated, without result.

The great amount of fat in the abdominal cavity and surrounding the kidney rendered the search extremely difficult.

The right kidney is imbedded in a dense mass of fat; capsule strips freely; it weighs 5 ounces; measures 11.5 cm.; substance is soft; cortex is 6 mm. in thickness; rose-red in color; cut surface slightly dulled. There are a few depressions of the surface, and the stellate veins are prominent.

The liver is dark-red in color; the gall-bladder distended. The organ was not removed.

The autopsy continued for a longer period than was anticipated by those who had charge of the President's body, and we were requested to desist seeking for the bullet and terminate the autopsy. As we were satisfied that nothing could be gained by locating the bullet, which had apparently set up no reaction, search for it was discontinued.

Anatomical Diagnosis.—Gunshot wound of both walls of the stomach and the superior aspect of the left kidney; extensive necrosis of the substance of the pancreas; necrosis of the gastric wall in the neighborhood of both wounds; fatty degeneration, infiltration and brown atrophy of the heart muscle; slight cloudy swelling of the epithelium of the kidneys.

A matter of no inconsiderable embarrassment to us arose in the objection to our removing sufficient portions of the tissues for examination. We were able to secure only 2 small fragments of the stomach wall; tissue from around the wound upon the chest well; a portion of fat from the wall of the necrotic cavity; a small piece of each kidney, that of the left kidney including the portion involved by the original wound; and pieces of heart-muscle from the right and left ventricles. The microscopical examination of these tissues follows:

The piece of retroperitoneal fat, where it forms part of the necrotic cavity, is seen on section to be covered with a thick gray deposit, which has an average thickness of from 4 mm. to 6 mm. Beneath this, and separating it from the fat, is a well-defined area of hemorrhage from 1 mm. to 2 mm. in thickness. The appearance of this piece of tissue is characteristic of the fat tissue surrounding the entire cavity. A section made perpendicular to the surface and stained with hematoxylin-eosin, shows the following characteristics: Under low power there is no evidence of round-celled infiltration between the fat cells, or of fat necroses. The surface of the tissue which, in the microscopical specimen was covered by a layer of grayish material, proves, under low power, to consist of a partly organized fibrinous deposit. At the base of this deposit is evidence of an extensive hemorrhage, marked by deposits

of pigment. The surface of the membrane is of rough and irregular appearance, and contains a large number of round cells with deeply stained nuclei. Under high power the organization of the membrane may be traced from the base toward the surface. The portion immediately adjacent to the fat tissue consists of a network of fibrin enclosing large numbers of partly preserved red blood corpuscles. In many areas the red blood corpuscles are broken down and extensive deposits of pigment are found. Extending into the fibrin structure of the membrane are numerous typical fibroblasts and round cells. In some regions pigment is evidently deposited in the bodies of large branching and spindle cells. Here and there, included in the membrane, are the remains of fat cells, and toward the surface of the membrane a large number of round cells scattered through the interstices of the membrane. There are but few polymorphonuclear leukocytes. Here and there in the membrane are fragments of isolated fibrous connective tissue with irregular contours and an appearance suggesting that they are fragments of tissue which have been displaced by violence and included in the fibrin deposit. The fibrin in the superficial layers of the membrane is formed in hyaline clumps. The organization along the base of the deposit is comparatively uniform.

Sections stained with methylen blue, carbol-thionin and Gram's method were carefully examined for the presence of bacteria, with negative results. Even upon the surface of the membrane there are no evidences of bacteria.

The section of the left kidney including the triangular area of hemorrhage described in the macroscopical specimen, reveals the following appearances. (Section hardened in formalin, stained with hematoxylin-eosin.) Examined macroscopically, section represents a portion of a kidney cortex made perpendicular to the surface of the cortex, and including an area of hemorrhage into the substance of the cortex 1 cm. in length, measured from the capsular surface downward, and presenting a width of from 5 mm. to 6 mm. The capsular surface has apparently been torn.

Under low power the margins of the preparation are found to consist of well preserved kidney structure. There is a slight amount of thickening of the interstitial tissue, and occasional groups of tubules are affected by beginning cloudy swelling. The glomeruli are large and present a perfectly normal appearance. As we approach toward the center of the preparation, occasional glomeruli are met with in which the capillary loops are engorged and the adjacent tubules contain red blood-corpuscles. A short distance further, the kidney structure becomes entirely necrotic. Here and there the remains of tubules may be made out, and these are infiltrated with cells. The necrotic area presents a rough, net-like structure. As we approach toward the surface of the kidney, we find that the necrosis becomes more marked. There is the merest suggestion of kidney structure, its place being taken by disintegrated red blood-cells and leukocytes, embedded in a well-defined fibrinous network. There is great distortion of the kidney structure about the periphery of the necrotic area. In this region a considerable amount of pigment is also found in the necrotic tissues.

Under high power, the characteristics of the necrotic tissues may be better observed. The kidney structure is broken up and torn into irregular fragments, infiltrated by red blood corpuscles and leukocytes. In the portion of the necrotic mass beneath the capsule, the kidney structure is practically obliterated and is replaced by a network of fibrin, which includes large numbers of red blood-cells and leukocytes. Scattered through the entire necrotic area are frequent deposits of pigment. In the deeper portions of the necrotic area, the margins of the fibrin deposit are invaded by fibroblasts from the connective tissue structure of the kidney. The organization in these areas is, however, slight.

Sections stained with methylen-blue and Gram's method and carefully examined under oil immersion, fail to reveal the presence of any organisms. In preparations stained with methylen blue, the deposits of pigment may be readily observed. Section of the same tissue hardened in Hermann's solution and examined for fat, shows the presence of numerous fat droplets within the epithelium of the tubules which are adjacent to the area of necrosis. In the portions of the preparation more widely distant from the area of necrosis, no fat is present.

Section of the right kidney hardened in formalin and stained with hematoxylin-eosin, reveals the presence of areas in which slight parenchymatous degeneration of the epithelium in the uriniferous tubules may be noted. These areas are not extensive, and are confined to single groups of tubules. The interstitial connective tissue of the organ seems to be slightly increased in amount, but there is no well-defined round-celled infiltration. An occasional hyaline glomerulus is to be met with in these cases surrounded by increased connective tissue. The epithelium of the kidney tubules, aside from those in which the parenchymatous degeneration is present, is well preserved. The nuclei are well stained; protoplasm, finely granular.

A fragment of the stomach wall taken from the immediate neighborhood of the anterior wound is in a condition of complete necrosis. The nuclei of the cells are scarcely demonstrable. The epithelial surface is recognized with difficulty. At its base are apparently a few round cells. Examination of the blood vessels reveals nothing characteristic. There is apparently no evidence of thrombosis. A section made through the gastric wall at some distance from the wound, reveals the well-preserved muscular structure of the gastric wall, which presents no characteristic alterations. Superficial portions of the epithelium have apparently been affected by postmortem digestion. However, in one portion of the preparation, the epithelium is intact, and shows distinct evidence of marked round-celled infiltration between the glandular structures. The blood-vessels contained blood-corpuscles with the usual number of leukocytes.

The fragments of heart-muscle which were removed from the right and left ventricular walls, were examined in the fresh state, and exhibited a well-defined fatty degeneration of the muscle fibers, and in the case of the right ventricular wall, an extensive infiltration between the muscle fibers, of fat, was apparent. Sections from these fragments of muscle hardened in Hermann's solution, are taken for examination. A fragment of muscle from the right ventricular wall was removed at a point where the fat penetrated deeply into the muscular structure, the ventricular wall at this point showing an average thickness of 2.5 mm. Under low power, the muscle fibers are separated into bundles by masses and rows of deeply fat cells. The muscle fibers are seen to contain groups of dark brown granules lying in the long axes of the cells. Under high power, these are resolved into extensive groups of dark brown pigment arranged around the nuclei. The muscle fibers are slender, the cross and longitudinal striation is well-defined. Examined near the margin of the preparation, where the osmic-acid fixation has been successful, all of the muscle fibers are found to contain minute black spherical bodies, extending diffusely through all the muscle fibers about the entire margin of the preparation. These fine fat droplets are present in sufficient amount to speak of an extensive diffuse fatty degeneration of the muscle fibers. Where the large fat cells have separated the muscle fibers, these are found to be more atrophic than those in the central portions of the larger bundles.

The examination of the section through the healed bullet wound on the chest walls reveals nothing of importance. The dissolution of continuity is filled in by granulation-tissue, and there is evidence of beginning restoration of the epithelium from the margins. Stains for bacteria give negative results.

To sum up: The macroscopical and microscopical findings of the autopsy, may be stated, as follows: The original injuries of the stomach-wall had been repaired by suture, and this repair seems to have been effective. The stitches were in place, and the openings in the stomach-wall effectually closed. Firm adhesions were formed both upon the anterior and posterior walls

of the stomach, which reinforced these sutures. The necroses surrounding the wounds in the stomach do not seem to be the result of any well-defined cause. It is highly probable that they were practically terminal in their nature, and that the condition developed as a result of lowered vitality. In this connection there is no evidence to indicate that the removal of the omentum from the greater curvature and the close proximity of both of these wounds to this point, had any effect in bringing about the necrosis of the gastric wall, although circulatory disturbances may have been a factor. The fact that the necrotic tissue had not been affected by digestion strongly indicates that the necrosis was developed but shortly before death. The excavation in the fat behind the stomach must be largely attributed to the action of the missile. This may have been the result of unusual rotation of a nearly spent ball, or the result of simple concussion from the ball passing into a mass of soft tissues. Such effects are not unknown. The fact that the ball grazed the superior aspect of the left kidney, shown by the microscopic investigation of that organ, indicates the direction of the missile, which passed in a line from the inferior border of the stomach to the tract in the fat immediately superior to the kidney. There was evidence that the left adrenal gland was injured.

The injury to the pancreas must be attributed to indirect, rather than direct, action of the missile. The fact that the wall of the cavity is lined by fibrin, well advanced in organization, indicates that the injury to the tissues was produced at the time of the shooting. The absence of bacteria from the tissues, indicates that the wound was not infected at the time of the shooting, and that the closure of the posterior gastric wound was effectual. The necrosis of the pancreas seems to us of great importance. The fact that there were no fat necroses in the neighborhood of this organ, indicates that there was no leakage of pancreatic fluid into the surrounding tissues. It is possible that there was a leakage of pancreatic fluid into the cavity behind the stomach, as the contents of this cavity consisted of a thick, grayish fluid, containing fragments of connective tissue. In this case the wall of fibrin would have been sufficient to prevent the pancreatic fluid from coming in contact with the adjacent fat. The extensive necrosis of the pancreas would seem to be an important factor in the cause of death, although it has never been definitely shown how much destruction of this organ is necessary to produce death. There are experiments upon animals upon record, in which the animals seem to have died as a result of not very extensive lesions of this organ. One experiment of this nature reported by Flexner (*Journal of Experimental Medicine*, Vol. II) is of interest. The fact that concussion and slight injuries of the pancreas may be a factor in the development of necrosis, is indicated by the researches of Chiari (*Zeitschrift fur Heilkunde*, Vol. XVII., 1896, and *Prager Med. Wochenschr.*, 1900, No. 14), who has observed (although a comparatively rare condition) extensive areas of softening and necrosis of the pancreas, especially of the posterior central portion which lies directly over the bodies of the vertebra, where the organ is most exposed to pressure or the effects of concussion. The wound in the kidney is of slight importance, except as indicating the direction taken by the missile. The changes in the heart, as shown by the macroscopic inspection and the microscopic examination, indicate that the condition of this organ was an important factor. The extensive brown atrophy and diffuse fatty degeneration of the muscle, but especially the extent to which the pericardial fat had invaded the atrophic muscle fibers of the right ventricular wall, sufficiently explain the rapid pulse and lack of response of this organ to stimulation during life.

REPORT ON THE BACTERIOLOGICAL EXAMINATION.

BY HERMAN G. MATZINGER, M.D.[1]

It is obvious that the short space of time which has elapsed since the death of the President has hardly been sufficient to prepare a complete and thorough bacteriological report. This report contains all the observations which have been made up to this time:

On September 11th, during the life of the President, cultures were made by Dr. Wasdin from the base of the abdominal wound and from dressings removed at the same time. These were submitted to me for examination, and showed the presence of the ordinary pus organisms: *Staphylococcus pyogenes aureus* and *Staphylococcus cereus albus*, with a gas-forming bacillus which, in pure anaerobic culture on glucose gelatin, forms small, pearly, translucent colonies, with no liquefaction. In litmus milk it produces acid, but no coagulation. Morphologically, it is apparently a capsulated, short bacillus, which takes stains poorly, and which does not stain by Gram's method. Inoculated into the ear vein of a rabbit, which was killed immediately afterward, it produced, after 24 hours in the body of the rabbit, a marked accumulation of gas in the organs, and again grew out in pure culture. As yet the organism is not fully identified.

None of these cultures showed streptococci. A *bacterium* which appears to be one of the proteus group was, however, isolated, which does not stain by Gram, and appears in varying forms, sometimes small oval, and again quite rod-shaped and in short chains. Sometimes it is surrounded with a slimy covering, which remains clear like a capsule when the organism is stained. On slanting agar, it produces a whitish, slimy growth, which gradually runs to the bottom of the slant and produces an odor of decomposition. On gelatin, it grows very slowly with slight and slow indication of liquefaction. In litmus milk, it produces acid and rapid coagulation.

At the time of the autopsy, September 14th, inoculations were made by myself. From the base of the wound, there was again obtained a number of pus organisms, principally a white staphylococcus and the bacterium described above, but no streptococci. Cultures made from the peritoneal surface of the intestines were entirely negative. Cultures made from the under surface of the omentum near the colon, were entirely negative, both with and without oxygen. Cultures from the blood of the right auricle were likewise negative. A very careful and extensive search for micro-organisms in the contents of the necrotic cavity, behind the stomach, reveals nothing but a short stumpy bacterium, which, as far as the work has been carried at present appears to belong to the proteus group, and is very like *Proteus hominis capsulatus*, described by Bordoni and Uffreduzzi.

Morphologically, it is not uniform, and sometimes appears almost encapsulated, being surrounded by material that does not stain; is quite refractory to Gram, and produces an odor of decomposition as it grows. It does not liquefy gelatin rapidly and grows slowly, as a glistening white elevated surface growth which slowly sinks; but on agar in the thermostat it grows very rapidly, as a moist, grayish-white, translucent mass. Colonies on gelatin plates have a clean circumference, are granular and quite refractive. In litmus milk it produces acid and rapid coagulation. Animal experiments are still incomplete and cannot be published at this time.

It must be stated that there is occasion for suspecting that this may be a contamination, either from the outer wound or elsewhere, because, quite unavoidably, the technic of obtaining the material and cultures from the necrotic cavity was not absolutely correct.

Cultures made from the small area of broken-down tissue under the chest wound at the time of the autopsy, grew what appears to be *Staphylococcus epidermidis albus*, described by Dr. Welch.

The slimy, gray, necrotic material from the cavity above the transverse mesocolon behind the stomach, was carefully examined microscopically, with the result that very few micro-organisms were found in the fresh state, and no recognizable tissue elements of any kind, no leucocytes or pus-corpuscles, but an abundance of crystals which appeared more like fatty acid than fat crystals. It contained no free hydrochloric acid, and was alkaline in reaction. Experiments as to its digestive power were negative. About 2 cc. of this material

[1] Bacteriologist to the New York State Pathological Laboratory.

was injected into the space behind the stomach of a dog (still living), with no results except quite an elevated temperature for 3 or 4 days. Other animal experiments are also still incomplete.

It might be well to state here that the bacteriological examination of the chambers and barrel of the weapon used, as well as the empty shells and cartridges, ordered by the District Attorney, was entirely negative, except that from a loaded cartridge there was grown an ordinary staphylococcus and a mould. The chemical examination of the balance of the loaded cartridges, made by Dr. Hill, chemist, was also negative.

The absence of known pathogenic bacteria, particularly in the necrotic cavity, warrants the conclusion that bacterial infection was not a factor in the production of the conditions found at the autopsy.

VIRCHOW'S BIRTHDAY CELEBRATION.

IT IS a pleasant thought that the American medical fraternity has honored itself in honoring Dr. Rudolf Virchow in a fitting testimonial held in New York last Saturday night. In so doing they have allied themselves with the medical world of Europe in deed as well as in spirit and have made manifest to the followers of science that its borders are universal and its masters are recognized as readily and honored as heartily in this, the New World, as in the Old.

THE VIRCHOW DINNER

AT SHERRY'S,

Fifth Avenue and Forty-fourth Street,
Saturday, October 12th, 1901,

AT SEVEN P. M.

J. D. BRYANT CHAS. L. DANA
A. JACOBI ANDREW H. SMITH
WM. H. THOMSON.

Committee.

This is the simple announcement that drew together over 100 representative medical men of the country and many others were present in thought if not in body. The list of those who attended or contributed is as follows:

Drs. I. Adler, S. Alexander, J. M. Anders, A. C. Abbot, C. Beck, A. B. Ball, J. D. Bryant, J. Byrne, C. E. Bruce, J. F. Bell, L. F. Bishop E. F. Brush, J. F. Chauveau, W. F. Chappell, C. N. B. Camac, John G. Clark, W. H. Carmalt, E. K. Dunham W. W. Dold, Ch. L. Dana, Judson Daland, F. W. Dercum, M. Einhorn, C. A. Elsberg, E. D. Fisher, N. A. Fairbairn, C. B. Fitzpatrick, J. Fuhs, G. R. Fowler, Simon Flexner, A. Gerster, A. L. Goodman, G. M. Gould, Henry Hun, H. A. Hare, Henry M. Hurd, W. S. Halstead, T. W. Hastings, J. E. Ill, M. P. Jacobi, Ch. Jewett, W. James, G. W. Jacoby, S. E. Jelliffe, A. Jacobi, E. G. Janeway, W. B. Johnson, W. H. Katzenbach, S. A. Knopf, C. I. Kipp, G. Langmann, F. Lange, F. Leviseur, S. J. Meltzer, J. C. McCoy, John P. Munn, Walter Mendelson, Alfred Meyer, J. H. Musser, W. G. McCollum, Paul F. Munde, Phillip Marvel, Robert A. Murray, Ferd. S. McHale, W. P. Northrup, J. D. Nisbet, William Osler, E. L. Opie, Charles N. Packard, Edw. S. Peck, W. M. Polk, J. Rudisch, A. R. Robinson, B. Robinson, T. M. Rotch, M. H. Richardson. M. R. Richards, M. A. Starr, F. A. Sondern, R. Sayre, A. A. Smith, D. M. Stimson, George F. Shrady, R. A. Sands, A. H. Smith, B. Sachs, A. Stengel, F. J. Shattuck, Theo. Smith, W. H. Thomson, John S. Thacher, James Tyson, H. N. Vineberg, J. A. Wyeth, F. W. Wunderlich, J. H. Wiggin, R. G. G. Wiener, L. Weber, William Welch, J. C. Wilson.

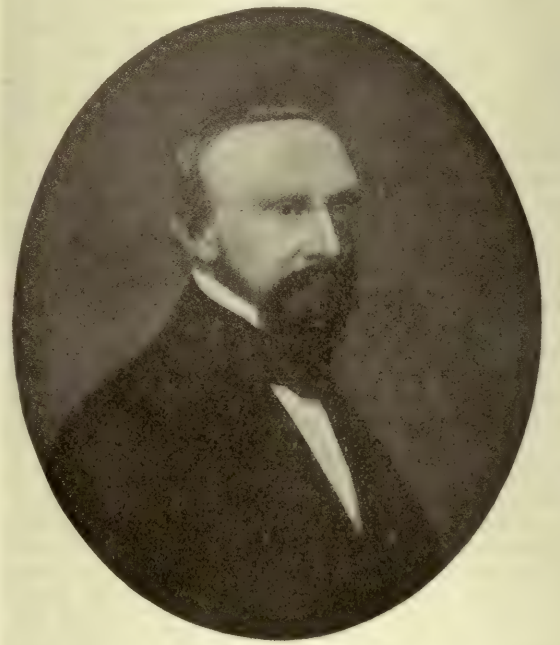
The menu was a pleasing surprise to the guests, reproducing on the outside cover, in the familiar green Virchow's *Archiv für pathologische Anatomie.*

Within were two portraits, one of Virchow when thirty-eight years old, presented by the eminent scientist to Dr. Andrew H. Smith, of this city. We here reproduce it. A later portrait was also given as per the second illustration offered to the readers of the MEDICAL NEWS.

The toasts were few, but were of great interest.

Dr. William Osler of Baltimore acted as chairman and spoke of Virchow as a scientist, especially along the lines of anthropology and public health.

This night, he said, was a notable one, in that eighty years ago it gave birth to one of the great lights of modern science, and it was



Virchow in 1859.

a night that marked a boundary of eighty years of almost unparalleled scientific activity. Genius, he remarked, has been said to be a matter of environment and of birth and in both respects Virchow could be said to have been most fortunate. It had been his great opportunity to have been a pupil of Johannes Müller, and the spirit breathed into the pupil was later expressed by him in his own address on Johannes Müller, his teacher, at the time of the latter's death. Scientific pathology, he then wrote, was at the time of Müller still struggling to free itself from the vague mysticism of the later empirics; conceptions of disease were theoretical and it was Müller's great service to have brought back into medical science the spirit of early Greek medicine. Observation, study and analysis had been the mainspring of these early Greek philosophers and this spirit had slumbered for at least fourteen hundred years until the sleep of idle

speculation had been broken by Vesalius in anatomy. But in pathology it had been Müller who had been the apostle of observation to bring into active life the just awakening science.

It is surprising, said Dr. Osler, speaking of his work in anthropology, that he should have been so prolific in studies, and these were not the work of a mere dilettante, dabbling in skulls and in relics, but those of a recognized master. He was conversant with all of the important research work going on in the field.

Illustrating his great interest in this line of work, also casting a side light on the spirit of the man, Dr. Osler said that at one time desiring to present him with something that he thought Virchow would like, he obtained the help of some of his friends on the Canadian Geological Survey, who procured for him some skulls of the British Columbian Indians. These he presented to Dr. Virchow, who was delighted to get them. He recognized them, knew all about them and kept his students waiting while he pointed out their most interesting archeological features, contrasting them with other skulls derived from far distant lands and from prehistoric peoples.

Of his contributions to the science of hygiene his "Gesammelte Abhandlungen" give testimony of great application and virility. He was an ardent and fertile student. No other worker on these problems, save, perhaps, Pettenkofer, could be said to have made such radical changes in the then prevailing mismanagement of municipal health affairs. The city of Berlin owes much of its present excellent sanitary system to his labors.

Dr. Osler then proposed a toast to the master which was responded to with a hearty "Drei mal hoch."

Dr. Gould then read a cablegram to be sent to Dr. Virchow which said that 100 of his medical friends and admirers were gathered in New York to drink his health and wish him continued years of usefulness.

Virchow as a Pathologist.—Dr. William H. Welch of Baltimore then gave an excellent response to this toast. He said: "We are here to-night to honor a man whose services to science, to truth, and to humanity, are immeasurable, and in so doing we honor ourselves. It has been said that whoever would undertake to give a comprehensive picture of the life and work of Rudolf Virchow should be a genius approaching in universality Virchow himself. Hence it is that attempts to estimate the work of this great master, its different aspects—pathological, anthropological, hygienic, political, and other—must be assigned to different speakers or writers. I have been asked to speak more particularly of Virchow's work in pathology, but it would be proposterous to attempt to give in an after-dinner talk even in barest outline an estimate of his manifold activities in this large field. All that I can hope to do is to present certain features which seem to me of especial significance, leaving untouched many others of equal importance.

"Virchow's work as an investigator began in the fifth decade of the last century, at a time when medicine was struggling to free herself from the bondage of dogmas and speculative systems, which had followed one another for centuries. The sciences collateral to medicine, such as chemistry, comparative anatomy, embryology and physiology, had already entered upon the new paths of exact observation and experiment. Gross pathological anatomy had been

Rudolf Virchow.

cultivated with enthusiasm and marked success since the beginning of the century, first in France and later in Vienna, but so erroneous were the deductions drawn therefrom, in relation both to general pathology and to clinical medicine, that its influence, reformatory as it was in certain directions, was in others positively injurious to practical medicine. With the exception of Müller's important histological study of tumors, published in 1838, there had been scarcely any fruitful application of the microscope to pathology.

"Meager as were his facilities for pathological study at the start under Robert Froriep, nevertheless Virchow's surroundings at that time must have been in many ways inspiring. The spirit of reform had begun to stir in nearly all fields of human activity. Never before had there gathered in one place

such a band of young, enthusiastic and productive workers in science, as were assembled about this time in Berlin in the laboratory of Johannes Müller, the greatest physiologist and teacher of biological science of the first half of the century, Virchow, Simon, Reinhardt, Meyer, Remak, Traube, Du Bois-Reymond, Brücke, Helmholtz. These were men all destined to become great investigators, some of them reformers in their special fields.

The directions first followed by Virchow in his pathological investigations were most fortunate and calculated to lead a man of his originality and clear insight to new points of view of fundamental importance. His earliest studies were of the chemistry and morphology of the blood, then of inflammation, and soon afterward of the connective tissues. He was thus brought at once face to face with problems which we still recognize as of the most far-reaching significance in pathology. The work which marks the culmination of the first Berlin and early Würzburg periods of Virchow's studies is that upon thrombosis and embolism—an epochal work which introduced a practically new and important chapter into pathology. The series of papers upon this subject collected in Virchow's "Gesammelte Abhandlungen" should be studied by medical students as models of exact observation, ingenious and well devised experimentation, and correct generalization. Here at last instead of speculations based upon incomplete knowledge of the facts we have the methods of the natural and physical sciences applied to problems of practical and scientific medicine.

"But Virchow was already engaged in those researches which led to the foundation of cellular pathology and which establish him as the greatest of reformers in scientific medicine. The underlying facts and principles of cellular pathology were worked out by Virchow in the early fifties while in Würzburg, but they did not become the common property of the medical world before the publication of his classic on "Cellular Pathology" in 1858. It would lead too far to attempt to rehearse here the steps which led to this great discovery. The story is an interesting one and has been told by Virchow himself in its main outlines in the opening article of the one hundredth volume of his *Archiv.* Suffice it to say that there were struggles and controversies before the universal acceptance of the great truth formulated by Virchow—*Omnis cellula e cellula.*

"We are so habituated to think in terms of the cell that it is difficult to put ourselves back even in thought to a time when pathological views were based upon the conceptions of plastic exudates and formative blastemata. The establishment of the principles of cellular pathology marked the greatest advance which scientific medicine had made since its beginning. Cellular pathology is the foundation upon which the stately superstructure of modern medicine is built. It is not a dogma, a doctrine of the schools, to be superseded by some new speculation, but it is a great biological principle. It places medicine in the rank of the biological sciences, and permits its fruitful cultivation by methods common to all natural sciences. It is to the pathologist what the atomic theory is to the chemist, what the mechanical equivalent of heat and the theory of the ether is to the physicist. It is even more than these, for we can see and study cells. It has opened up new and limitless fields of investigation which as yet have been explored only in relatively small part, and each new stone is added to the building without a quiver in the foundations.

"It is true that the last word has not been spoken in our efforts to penetrate to the finest structural elements affected by disease. There are doubtless ultimate formed and definite constituents within the protoplasm of cells, and it would he hazardous to predict to what point future investigations may lead in the understanding of their relation to the cell and their demonstrable participation in disease, but thus far there is no evidence to warrant us to regard these intracellular elements as independent, vital units in the sense in which we look upon the cell as unit. The seats of disease were transferred first from regions to organs by Morgagni, thence to the tissues by Bichat, and finally to the cells by Virchow, and there they are likely to remain, however far the analysis of the structure of the cell may be carried.

"It is impossible on this occasion to attempt to follow further the special pathological investigations of Virchow, to speak even of his monumental work on tumors. Such an attempt would lead us into every corner of pathology, for it is characteristic of the man that there is no pathological subject, however trivial at the time it may seem, which has not his interest and is not attacked by him with the same painstaking zeal as the most important one.

"There are two or three general considerations relating to Virchow's attitude and work to which I should like briefly to refer, familiar as they must be to you all.

"One is the thoroughness of Virchow's investigation of whatever subject he has taken in hand. His are no half-finished, 'preliminary communications,' launched prematurely in fear of anticipation of his results by some fellow worker, but with complete, critical command of all that his predecessors, not merely those of yesterday, may have done, and with due acknowledgment of their work, he presents in an orderly, concise and clear manner the results of his own investigations, based upon a thorough study of all the facts pertinent to the subject. If genius is 'the capacity to take infinite pains,' Virchow is an example, as indeed he is of genius however defined.

"Virchow has always emphasized and in his work exemplified the fact that it is method and not doctrine which characterized his school, if I may be permitted to use in a good sense a term which has such a baneful sound in the history of medicine. He says in his interesting article on 'The Scientific Method and Points of View in Therapeutics'; 'The Method of Investigation is That Which is Essential and Determining. It is the method which distinguishes the Harveys, the Hallers, the Bells, the Magendies, and the Müllers from their smaller contemporaries. This is the soul of the natural sciences.' Virchow's method is none other than that which alone is productive of results in natural science—the familiar and long-tried, but in medicine often enough neglected, method of careful, accurate observation, properly directed experimentation, and deduction of general principles based upon sound reasoning and full knowledge.

"The true position belonging to pathological anatomy was first clearly defined by Virchow. His convincing critique of Rokitansky's general pathology was directed as he said, 'not against the Rokitansky whose special pathological anatomy remains untouched, but against the Rokitansky who had reached out beyond the boundaries of pathological anatomy.' Virchow recognized promptly the error of his predecessors in attempting to construct a general pathology, or physiological pathology, as he prefers to call it, solely from the observation of morbid changes at the autopsy table. He pointed out the harm which had been done to practical medicine by such mistaken attempts. General pathology must call to its service not only morbid anatomy, but also experiment and clinical medicine. Nor is practical medicine to be founded upon pathological anatomy and general pathology alone, important as these are to the physician in many ways. Clinical medicine, as well as every other department of medicine, must be investigated by itself, deriving, as should every science, all the aid it can from allied sciences.

"Virchow broke completely with the old ontological view that disease is something apart, an entity. He promulgated the conception that disease is life under changed conditions, and that its operations are subject to the same laws as control the workings of the body in health. Hence the fundamental importance of a knowledge of physiology to the pathologist and the physician.

"The far-reaching import of this conception of disease was never more apparent than since the discovery of the relation of micro-organisms to the causation of infectious diseases, and here I may be permitted a word as to Virchow's attitude toward this great discovery. It is unquestionably a mistake to suppose that it is not a sympathetic one, for the reason that various matters pertaining to the subject have encountered his criticism.

"Virchow, as Dr. Osler has just told us, is himself a pioneer in the field of preventive medicine, as is well known to all acquainted with his investigations, at the outset of his career, of famine typhus in Upper Silesia, and with his other contributions in this domain. One must know something of the political conditions in Prussia in those days to appreciate fully the courage of this young physician of 26 in pointing out the dreadful social conditions in which the people of this region, ravaged by typhus, were living and the duty of the State to intervene by appropriate sanitary improvements! This work was eventually instrumental in introducing a new era of sanitary reform in Germany. Virchow's special investigations relating to infection and parasitic diseases entitle him to a prominent place in the history of this important chapter in Pathology. I need only call to mind his studies on trichinosis.

"But Virchow has done an important service in defending the fundamental principles of cellular pathology and in sustaining the conception of disease to which I have referred, by making it clear that the parasite is not the disease, that it is the disturbances of cellular structure and function induced directly or indirectly by the parasite which constitute the essence of the disease, and that new properties acquired by the fluids of the body through the action of bacteria, which seemed to be leading some short-sighted observers back to the old humoralism, must in the last analysis be derived from the cells. Cellular pathology has only been strengthened by the great discoveries in bacteriology, and ontological and humoral conceptions of disease have been revived in these later days only to be discarded by all profound thinkers in pathology. Virchow's critical attitude toward hasty conclusions and generalizations in this new branch of science has really been of great service.

"I have left myself no time to speak of Virchow as a teacher of pathology, or as the organizer of a great laboratory, the first devoted to the subject and the Mecca for students from all countries who are proud to call him their master.

"Fifty years ago Rudolf Virchow stood in the center of the world of scientific medicine; to-day at the completion of his eightieth year, still energetic and active, he stands in the same place. His fame is imperishable. His name will remain for all time one of the glories of medicine and science. May the years which remain to him be full of health, and happiness and prosperity!"

Personal Reminiscences.—Dr. Andrew H. Smith of New York then spoke of Virchow as a man and as a teacher and in a very charming manner took his hearers back to the old Pathological Institute of Berlin; in 1858-1859 Virchow was then thirty-eight years of age and was full of enthusiasm and ingenious devices

for teaching of pathological anatomy. He told how the early autopsies had been performed and spoke of his surprise and delight to see how Virchow revolutionized for him and his students the early ideas of the functions of an autopsy. Previously such examinations had been made simply to try to ascertain what the man had died of and the examinations were very superficial; small openings being practised and minute dissections alone of the affected organs made. Virchow changed all this; with one fell swoop, he would open the body from the chin to the pubes and then would follow his classical method of opening the chest. Dead men literally spoke while Virchow performed an autopsy and the idea was "how much can be learned about this body from all possible points of view." The cause of death was but a secondary consideration. The dead body was a mine to be explored and made to yield rich products of information.

He also spoke of the methods for teaching microscopical pathology as then carried on, telling in detail of the railroad of microscopes that Virchow had constructed in his laboratory.

Dr. Smith spoke of having commenced to translate the "Cellular Pathology" and of his trouble in finding a publisher, revealing incidentally that publishers at that day were as shortsighted in not recognizing the work of genius as at the present time and that then as well as now commercial points of view seemed to be in the ascendancy.

In the matter of style, Dr. Smith said that Virchow had complained bitterly of the vernicular form of medical literature in vogue in his youth and he at that time commenced to put his thought in simple and straightforward literary form. A style which was marvellously clear and clean cut. Virchow was most democratic as a man and most approachable. He was always ready to help his students and was a man of most charming and engaging personality.

Virchow as a Citizen.—Dr. A. Jacobi of New York gave a stirring address which was greatly enjoyed by all those present. He said:

RUDOLF LUDWIG KARL VIRCHOW was born October 13, 1821, at Schivelbein in Pomerania, was educated from 1835 at the Gymnasium of Cöslin, went after his examination for "maturity" to the medical Frederic William Institute at Berlin—the school for military surgeons—graduated in 1843; became prosector in the Charité Hospital 1846, gave courses in pathological anatomy; obtained the permission to deliver lectures in the University of Berlin, as Privat docent, 1847; was sent February 20, 1848, as medical expert to Upper Silesia to study the "hunger typhus" epidemic; returned to Berlin March 20th and delivered his report; was on account of it deprived of his governmental positions; reinstated in part only on account of the urgent petitions of a large part of the profession of Berlin, but remained then and for a long time in the honorable possession of the hatred aroused in the governmental party by his independent bearing, and his zeal in asking for reforms, and left Berlin to assume the offered professorship of pathological anatomy at Würzburg, to the great relief of the Prussian government.

This is how it all happened. When his communications on the Silesian epidemic of the starvation typhus were published, they were found to contain much more than the government relished. They were medical; there were histories of cases and autopsies; they were also historical, scientific, hygienic and reformatory. He described graphically and truthfully the revolting neglect through centuries of the Polish population of Upper Silesia, their poverty, dirtiness, ignorance and brutality, their mental slavery under the Catholic hierarchy, and their physical abjectness under the Prussian bureauracy and feudalism. He looked for salvation not in medication, but in education, in social reforms, in culture with its daughters: liberty and welfare, in full and unfettered Democracy; education of the people, agricultural institutes, raising and instructing the numerous orphans; road building and general recognition of the fact that, as he expressed it, "with our century begins the social era." A few weeks after he edited with Leubuscher, a new magazine, the *Medical Reform.* In the first essay he pronounced the doctrine, that "the physicians are the natural attorneys of the poor, and the social problem belongs in its intrinsic parts to their jurisdiction." Then he urged a reform of the public relief of the sick which he declared must be obligatory; and the recognition of the need of a hygienic existence of every human being; reforms in the medical profession, in University education, and in the entire medical legislation. Do not forget that all this happened and was preached just before and immediately after the March revolution of 1848. Remembering that, you will comprehend why the Prussian Government dismissed him, again reëstablished him in a part of his positions, unwillingly but under the pressure exercised by the profession of Berlin. For it was the time when the Prussian government, in spite of its temporary defeat, had retained all its absolutistic instincts, had exhibited all its cowardice common to all tyrants, and its senseless confusion during unexpected difficulties, its revengeful reactionary cruelty after unheard of humiliation—indeed, on March 19th his Majesty was compelled by the victorious people to uncover his Royal head in the presence of his dead enemies shot on the barricades of the day before. Thus it happened that when the call to Würzburg reached Virchow, he was encouraged by the grinning authorities to accept it. In the very last numbers of his *Medical Reform* he said: "The med-

ical reform we had in mind, was a reform of science and society in general." Now you will also comprehend that among the revolutionary youth that died on the battle-fields or pined in dungeons, not a few were students of medicine.

Such a man never lost his interest in public affairs, and never gave up his labors in their behalf. The public hygiene of his country, of all countries, owes much to his study and initiative. He was the main factor in the great work of canalization of Berlin, the cultivation of vast territories by the utilization of sewage, the organization of medical care of the sick, the erection of hospitals such as Moabit, Friedrichshayn, Urban, Empress Frederic Child's Hospital, Dalldorf, Lichtenberg. The problems of tenements, of child and general mortality have forever occupied him. Nobody more than Virchow has taught the medical world the importance of medical statistics; nobody before him, or like him, has utilized physical statistics more uniformly and more successfully in the domains of anthropology and ethnology, and thus co-ordinated—under the influence of the same methods—all the branches of biological research.

The organization of the medical care of the soldiers during the campaigns of 1866 and 1870 was partly his work. The history of hospitals and hospital work was his study for years. It was then that he wrote what I had the proud gladness of quoting twenty years ago in regard to our doings on this side of the Atlantic: "The French army lost, in the Crimean War, thirty-three per cent. of its men, viz., 95,615. Of this number, 10,240 were killed on the battlefields, and about as many died of their wounds in the hospitals. More than 75,000 men died of infectious diseases. In the American Civil War 97,000 died of their wounds, and 184,000 perished of infectious and other diseases. What a vast amount of pain and misery! What an ocean of blood and tears! And besides, what a number of errors, mistakes and prejudices! It is not necessary to enumerate the long list of blunders and sins. They are so well known as to serve in the future as warning examples. Let me say here that it was not misfortune alone that showed where the cause of the evil was, and then provided aid. If the French learned little or nothing in the Crimea, and the Americans so much in their Civil War as to create a new era in military medicine, the explanation is not to be sought for in the immensity of misfortune and misery undergone by the Americans, for they did not suffer any more than the French did in the Crimea. The explanation is in the critical and thoroughly scientific spirit, the clear perception, the sound and practical common sense which penetrated gradually every part of the American military administration, and which, with the astounding coöperation of an entire nation, accomplished more humane results than any great war ever produced before. Whoever studies the copious publications of the medical staff of the American army, must again and again be astonished at the vast experience collected in them. Absolute accuracy of details, the most painstaking statistics, acquaintance with all branches of medical learning, and a comprehensive style, are united in them for the purpose of collecting and preserving, in the interest of the present and future generations, the new knowledge so dearly bought."

That is how a great writer expressed his knowledge, and a man fond of democratic government his sympathy with the results of the spontaneous work of a republican commonwealth. His interest in the welfare of the people he proved through many years by his participation in societies made up of the public at large; he lectured there frequently, mostly on physiological topics, and for dozens of years he has found the time to edit with Holtzendorff, an immense collection of popular lectures contributed by special workers all over the land.

For nearly forty years he had a seat in the town council of Berlin. It was through his influence mostly, that Berlin with its more than two millions of inhabitants, is a clean, healthy, well governed city, well governed in spite of the constant interference by the political government of the country. Indeed I do not know of any large city that has for dozens of years understood so well the municipal interests of the people as differentiated from the political demands of the Empire.

Only yesterday the word was passed in the Council of Berlin that the encroachments of the government ought not be endured. Dozens of years he was a member of the representative council of Prussia, and of the parliament of the Empire. That he selected his seat on the benches of the opposition is self-understood. When he was young he was known to be a revolutionist. He was maltreated by the government to the full extent of its possibilities; fortunately for him, and for all of us, he was not caught on a field of battle or in a conspiracy, actual or alleged, that could land him behind prison bars; but his tendencies were well understood. When once he demonstrated his new discoveries of thrombi and embolism in a case of pulmonary obstruction, old Schönlein, who was watching the result of his clinical activity in the morgue, shrugged his shoulders and said: "I notice you see barricades everywhere." This barricader now raised barricades indeed against many a nefarious project in Parliament. Not only did he discuss questions of hygiene and education in which his authority was readily acknowledged, but he was always alert and effective in the treatment of political questions of every kind. The chancellor who never cared for principle or right, but for opportunity and might only, found in

Virchow a lively critic and a frequent obstacle. There was a time when the great Bismarck challenged Virchow to fight a duel with him. The greater Virchow declined the honor of making a brute of himself, or of being made a corpse of by the vandal of blood and iron. His main adversary indeed was this man Bismarck who through thirty years of oppressive measures, dissolution of Parliaments, governing without the assent of the representatives of the people, sudden changes both of economical and ecclesiastical policy and party affiliations, brutal assaults on the rights of individuals, the freedom of the press, and the principles of the constitution that was purchased with the blood of the best part of the nation—though he succeeded in throwing into the lap of the Hohenzollern family additional large territories, and in obtaining for Germany a partial unity instead of the complete integrity we were fighting and conspiring for when we were young, has done more than any German in history to emasculate German politics and demoralize the public conscience.

Virchow, on the contrary, resisted to the utmost the lawlessness of absolutism, claimed that law should be supreme, the rights of citizens respected, the office holders know and live up to their duties, the constitution be carefully guarded and protected, and peace not rendered more expensive and exhausting than even war, through military expenses and pensions without limit, and the withdrawal of profitable labor, and enforced idleness of a million of men.

While engaged in scientific research which in universality, novelty and reforming power, are surpassed or equaled by none that are immortalized in the history of medicine, Virchow never ceased to feel that he did not only belong to theoretical and practical science, but to his people; and moreover, while his theoretical work has always a practical bearing and result, so his political and social views have a practical tendency.

He was born one of the people, and remained a friend of the people. He need not turn politician, he was and is politician born. We in this our country are in frequent danger of forgetting that at one time at least, the most intelligent, wise and pure men of this nation were our foremost politicians. Without the controlling sympathy of the very best, the Constitution of the United States would not have seen the light. We have since descended sometimes, aye many times, to the fear that only a second-rate intellect and a third-rate morality make a successful and zealous politician, losing sight of the fact that Aristotle already defined man as a "political being" and insisted upon the labor of all in the interest of all.

Virchow's example should teach, particularly young medical men, that thorough science and good citizenship do not exclude each other. Indeed there is nobody so removed from the midst of his fellows, so absorbed in abstract studies, that has no interests in common with the rest of mankind. To prove your sympathy, what you have to spend in time, in activity, in money, should be given to the cause of the people, in the town and in the country, and particularly in critical periods of our history, like that of to-day.

The parliamentary labor performed by Virchow would easily have taken the whole time and all the efforts of a vigorous man of intellect. What was it to him who bears his eighty years lightly and has a right to ask for many more? In the preface of his "Morbid Tumors" he says his political work was his recreation from labors more fatiguing and onerous.

His labors have been many like his honors that have been many. He has stood them all. His labors he sought, his honors came to him unsought.

There was a time when the powers politic would have been glad to destroy or to cripple him. When he proved the man of the century and the star to which thousands liked to hitch their cars, he became an unapproachable power himself. He became so big that they forgave him. Then titles would come, and places on government boards, and decorations enough to cover the liveries of a Chatham Street store. But more came to him.

There is no scientific body, medical, anthropological, ethnological, that does not feel honored by his accepting a place on its roll of honorary membership; no congress at which he is not the most honored guest; no book on any medical or anthropological topic in which he is not quoted as the main authority. And still more is due him. The history of the City of Berlin, beautiful, healthy, hygienic, could never be written without his name on every page; the history of Prussian and German politics will not be complete without it. The place of honor belongs to him, and to his friends who fought with him, and for the people. His place in science is secure, and his good citizenship will never be doubted.

His life is a great lesson to all. I see men of international fame here, of genius, covered with glory and loved and admired by all. But there is nobody who claims to equal him, or to do more than to imitate him. Now the lesson we should learn, do learn, from his example, is that no matter how high your position, how extensive your learning, how numerous your adoring pupils, you hail from the people, are one of them, part of human society, with duties of reciprocity and good citizenship. The lessons hundreds of my New York City friends should learn from what is going on this evening, is also this, that we in this town, of which we are apt to say we are so proud, and which we should teach to be proud of us, its sons and citizens, that we should learn from the presence of so many of the distinguished

men of Baltimore, Philadelphia, and Boston—as busy as any of us and as necessary to the welfare of the people—how to sacrifice an hour or a day for a demonstration as sacred as this of to-night, that is taking place in New York, in Berlin, and many other centers of science and good citizenship. Never, never was there a more urgent call on the profession and a more appropriate opportunity for an enthusiastic meeting than this anniversary of this octogenarian, greatest in science and great in citizenship. It should not be said that Boston has Bunker Hill and Harvard, Philadelphia, Federal Hall and the oldest Medical School, Baltimore has Johns Hopkins, and we should not told that New York has nothing but Wall Street and its spirit. Now, we, of this City, thank those who have come from afar to adorn this occasion by their presence and their famous names, for being with us. A similar opportunity may never arise for any of us. For history does not easily repeat itself, and the particularly grand blending of great qualities with immense powers is no creature of every decade or even every country. What Virchow was, what he is, will always be appreciated and honored. There is no ephemeral fiber in his existence. One thing we can say of him with Goethe: "He has satisfied the best of his era, he has lived for all time."

Wer hat den Besten seiner Zeit genug gethan,
Der hat gelebt für alle Zeiten.

REPORT OF THE SUMMER WORK OF THE MILK COMMISSION OF THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

BY HENRY DWIGHT CHAPIN, M.D.,
OF NEW YORK;
CHAIRMAN OF THE COMMISSION.

It may be of interest to the members of the Society to briefly rehearse the incidents leading up to the formation of a Milk Commission, before speaking of its work. A year and a half ago an evening was devoted to a discussion of the milk problem, especially in connection with large cities. A number of experts were present, including the Chief of the Dairy Division of the U. S. Department of Agriculture. The subject seemed one of such importance and aroused so much interest that the Society determined to form a commission that should study the best methods of improving the milk supply of New York. The time seemed ripe for such a movement, as the interest aroused and the success of the work have since proven. Moreover, the Medical Society of the County of New York, as the public and legal representative of the medical profession, and the guardian of the City's health, seemed the proper body to undertake such a work.

The first meeting of the Commission was devoted to a discussion of the problem and how it might best be approached. The milk that is put into a large city must be gathered from diverse and distant sources, transported many miles, and finally distributed after many vicissitudes and changes to the customer, who himself keeps it a certain length of time, possibly under unfavorable conditions, before its use. When we consider that all this happens to a vital fluid that is unstable in its composition, that is sensitive to many unavoidable factors, such as temperature, atmospheric effects, shaking, and, above all, to dirt and dirty utensils, the complexity of the question may be appreciated. Heretofore most of the work done in a public study of a city's milk supply, has concerned itself principally with the chemical ingredients of milk, more particularly the amount of butter fat it contains.

One of the members of the Commission, having studied this subject for several years, found that the milk of New York, especially as supplied by the best dealers, runs fairly high in butter fat. While the law requires 3 per cent., an examination of over twenty samples from diverse sources showed an average of about 4 per cent. to be present, and not infrequently 5 per cent. is reached by the best dairies. Further examination showed that much was to be desired in point of cleanliness of the milk. Milk is an exceedingly good culture medium for the growth of bacteria of all kinds, and modern studies show that the presence and numbers of bacteria form a good gauge of the general condition of the milk, and the care with which it has been handled. The proper preservation of milk is also involved, as it is well known that the deterioration of milk from acid changes is due to bacterial growth. Ordinary bacteria that contaminate and grow luxuriously in milk come from the dirt that follows a careless handling of the milk, anywhere from its first production to its delivery.

It seemed well to the Commission to establish an advanced standard of clean milk for the ordinary dealer, and the index of cleanliness would be established by a bacterial count. In other words, a bacterial standard would be applied as a gauge of the condition of milk. As this work was to be entirely voluntary, as far as the dealers were concerned, it was decided to invite them to a conference with the Commission, and learn their ideas as to the feasibility of the undertaking. Accordingly, 180 invitations were sent out to dealers in Manhattan and the Bronx, this including all those of any financial importance, as shown by their commercial ratings. The meeting was held on November 16th, at the Academy of Medicine and about 50 dealers were present. They were invited to give their views freely as to whether part of their milk could not be put out according to an advanced standard for the benefit of infants, invalids, or any who desired a superior article. While many practical difficulties were urged, the general sense of the meeting seemed to be that with some extra care and expense many improvements could be made,

under proper guidance, in putting out a strictly clean milk. Encouraged by this expression of opinion, as well as by the good will and spirit shown by the dealers, the Commission determined to call a second meeting of those who were willing to have their milk examined and certified by the Commission. In the meantime, a series of suggestions, adapted from the dairy rules of the United States Department of Agriculture, were combined in a circular, together with a tentative standard adopted by the Commission. The final paragraph explains the latter as follows:

"The Milk Commission of the New York County Medical Society agrees to guarantee or certify the milk of all dealers desiring such certificate. A special label will be furnished for this purpose. The standard required to obtain this indorsement will be that the acidity must not be higher than 2 per cent., and that the milk must not contain more than 30,000 germs, or bacteria of any kind, to the cubic centimeter. This will be tentatively adopted as a standard of clean milk, as bacteria get into the milk through lack of cleanliness during the milking and careless handling of the milk after the milking, and hence is a good clue to the care bestowed in the production and general handling of milk. The milk, before testing, must be in its natural state, not having been heated and without the addition of coloring matter or preservatives. The butter fat must reach 3.5 per cent. Examination must be made by the experts retained by the Commission, with a frequency at their option, according to the season and the general condition of the milk under inspection, and at least once a month. The Commission reserves the right to change its standard, in any reasonable manner, upon due notice being given to the dealer. The expense of the examination will be met by the dealer. All reports of examinations will be strictly confidential between the Commission and the individual dealer."

About fifteen dealers attended the second meeting, which was understood to include all who were at that time willing to work with the Commission. A report was then made to the Comitia Minora, who authorized the continuance of the work along these lines.

The first examination was made March 4th, for certification, the count showing 58,500, with butter fat 3 per cent. It may be of interest here to see how the better grades of milk in New York run in bacteria. The following tests, furnished by Dr. Park, will show the amount of bacterial contamination of milk put into New York, during a winter and summer day. The first was taken November 19, 1900, being a mild winter day; temperature during the afternoon was 70 and at night 50° F. Samples of milk taken from carts, received directly from cars, gave an average temperature of about 52° F., the range being from 50 to 58° F. The number in the six samples ran as follows: 56,000; 128,000; 35,000; 256,000; 13,600; 2,880,000. For a summer day, June 29, 1901, was taken, the day temperature being 90° F. and the night temperature 78° F. Six samples taken at random show as follows: 520,000; 30,000,000; 3,530,000; 12,000,000; 216,000,000; 9,600,000.

Some idea of the extent of the bacteriological work upon milk done for the Commission, will be appreciated by stating that from March 4th to the present date, 800 separate bacteriological examinations have been made. This laborious undertaking has been accomplished by Dr. Sarah Belcher, to whose zeal and enthusiasm much of the success of the work is due. The mission is also greatly indebted to Dr. Park for valuable oversight and advice, and to the Rockefeller Institute for Medical Research for its cooperation in allowing Dr. Belcher to render these services as part of the work of the Institute. Bacterial tests have been made in the Research Laboratory of the Department of Health. After visits to a number of farms and dairies, it was aimed to classify the various sources of contamination, so that each one might be separately inspected and eliminated as the source of trouble, or corrected, if found at fault. In order to reduce to practical results these bacterial researches, the following factors were considered and carefully studied:

1. Conditions of barn.
2. Condition of cows.
3. The milkers.
4. Condition of utensils.
5. Processes of cooling.
6. Transportation.
7. Condition of cans or bottles when returned from city.

1. *Conditions of Barn.*—Dirt and dust, usually so abundant in an average barn, readily get into the stream of milk or pail and form a fruitful source of bacterial contamination. The common sources of dust are the hay-loft overhead, cobwebs on walls and ceiling, loose boards, dirty windows, floors of dirt, unclean manure gutters, excessive bedding, storage of grain or feed in the barn, the rations, such as piles of hay placed near the milking and the storage of farm or other utensils in the barn, that soon become covered with dust. A dirty barn quickly raises the bacteria in milk there collected. Thus, on June 8th a cow was milked in such a barn and an examination of the milk showed 120,000 bacteria to each cubic centimeter. At the same day and hour, another cow, in apparently the same condition, was milked in the adjoining pasture, away from the dust of the barn, the milk here showing only 26,000. This experiment repeated twenty times in various localities, always gave similar results. There is invariably a large increase of bacteria in milk collected in a dirty barn. Even when a barn has been cleaned up, some source of dust may be overlooked and cause trouble. Thus, on June 15th, the premises as well as the cows were examined after the barn had been cleaned. Twelve cows standing in a row in the barn all showed a low bacterial count in the milk separately examined, except the one at the end, which showed 1,000,000. This cow stood next to a pile of dry feed, which was the only factor to account for the contamination. Here was explained an aberration in the milk of this barn that we could not at first understand, as everything had been cleaned according to directions, but this little detail overlooked. Many visits and experiments have thus shown that con-

tamination can easily be avoided if the source is discovered.

2. *Condition of Cow.*—Much dirt that gets into milk comes directly from the cow. When the cow is being milked the udder is pulled down, which loosens dandruff, hairs and dirt from all the adjacent parts. Particular sources of impurity that are apt to be overlooked in cleaning a cow are the folds between the udder and the flanks and dirt on the tail. Fifty bacterial tests were made in direct relation to the cow. The following, in which clean barns and milkers figured in connection with dirty cows, will serve as an example. Four dirty cows under above conditions gave an average count of 90,000. Four other cows from the same herd in the same barn, were carefully cleaned and then milked by the same man and gave an average count of only 2,000.

3. *The Milker.*—A fruitful source of dirt is directly attributed to the milker. The dirt may come from the hair, hands, especially when chapped and scaly, fingernails, tobacco or clothing. It was found that the milk from certain men always gave a high bacterial count that could invariably be traced to some of the aforementioned sources. It is better to have the milkers clean-shaven, and, when milking, they should be clad in white duck suits or blue overalls that are frequently washed. Young, single men make the best milkers, as they are less apt than married men to carry infection from the home. The details of their living admit of better oversight.

4. *The Utensils.*—These include pails, strainers, condition of creamery or dairy room, aerators, stationary vats, portable vats, and bottles or cans. It is sometimes difficult to find which of these factors is at fault, but the condition of the pail or strainer is very important, as when they were found at all dirty the bacterial count was always high. Thus, in a case where an ordinary pail and strainer was used the count was 80,000. On the same day, from the same barn and cows, a sterilized pail and strainer being substituted, the count dropped to 5,000. All utensils must be strictly clean, and, if possible, steamed or sterilized. It was found that cleanliness depended both upon apparatus and proper methods of cleaning. (1) In every utensil all seams must be well soldered to avoid hiding-places for traces of dirt and coagulated milk. (2) Cold or lukewarm water must first be used to avoid coagulation of particles of milk, then a cleansing with hot water, with soap or soda, and a final rinsing with hot water. After washing, cans or bottles should be turned bottom up on racks, and, if possible, steamed or sterilized. The following interesting experiment was made: Two samples were taken from the same can of milk—one from the top, showing a count of 5,000, while the one from the bottom gave 80,000. As the can had been standing in ice the lower part was cooler. The milk had also been strained and creaming had not taken place, hence the conclusion was that the bottom of the can was not clean, and had contaminated the milk near at hand. On the whole, it was found that the simpler the pail the better; one that can be milked into quickly and cleaned easily is the best. The plain open pail gave the best results. It was found that metal strainers attached to pails were undesirable owing to difficulty in keeping them clean. Particles of dirt that might be removed later by straining are broken up by the force of the stream of milk and thus disseminated through the milk. Thus, samples from pails having strainers uniformly gave a higher bacterial count than when strainers were not used, other conditions being as nearly as possible the same. The best general strainers are absorbent cotton, cheese-cloth or Turkish toweling attached to the receiving-cans by clothes-pins. If a metal strainer is then used, it should be as simple as possible, and the wire mesh must be carefully cleaned with a stiff brush. If an aerator or vats of any kind are used, they must be cleaned and, when possible, steamed or sterilized. All joints and seams must be smooth and the faucets and pipes likewise frequently steamed or sterilized. By requiring more apparatus to be kept clean, aeration, as ordinarily practised, increases the danger of bacterial contamination. The following experiment was made on July 22d: It was found that samples of milk from pail and strainer on a certain farm averaged 3,000. After aeration by the farmer, according to his usual method, the samples gave a bacterial count of 1,404,000. Here a man with clean cows, barns and milkers, was contaminating the milk by faulty utensils. In the hands of men understanding the importance of strict cleanliness, the aerators are not a source of danger, but if the aerator is not strictly clean and in proper surroundings, the ordinary farmer may lose more than he gains by its use. Dirty ice, flies, floating dust, pipes and faucets are sources of bacterial contamination. It has been found that with a clean barn, clean cow and clean milker, the ordinary so-called "cow odor" is not present.

5. *Processes of Cooling.*—This we have found to be one of the most important factors in the production of uncontaminated milk. The whole future condition of the milk depends a good deal upon its handling during the first forty-five minutes. The sooner it is brought to a temperature at or below 45° F., at which point the growth of bacteria is greatly inhibited, the better. Many inspections of premises that were clean enough to produce a clean milk gave disappointing results when the milk was allowed to stand for more than an hour without being cooled. Where the milk was brought below 45° F. within twenty or thirty minutes, a low bacterial count *always* resulted, other conditions being right. In an experiment made July 25th, tests were made of milk collected from clean cows in a clean barn, the average count from the pail being 7,000. It was then cooled not lower than 60° F., by a slow process, and after two hours it was still standing

at 60° F., when a bacterial count gave 89,000. Five days later, the milk under apparently similar conditions was cooled down to 45° F. within ten minutes from milking, and then showed a count of only 12,000. This experiment has been repeated at six different farms, in various localities, with similar results. We have found the temperature of springs during the summer to vary from 45° to 70° F., with an average of about 55° F. Hence this method of cooling is uncertain and defective unless ice is added to the spring. Ice is always necessary to the farmer who is handling milk. When springs are used, the surroundings must be kept clean and the water uncontaminated at its source.

6. *Transportation.*—As soon as the milk is put into bottles or cans it must at once be surrounded by ice. If they are kept standing in a vat, the temperature of the water must be at least 40° F., as the milk will then be a few degrees higher. This temperature must be maintained by ice until the car is reached, if the milk is in bottles; if in cans, by means of jackets. The ordinary freight car should not be used. We have found that refrigerator cars, with doors at the end kept closed, are necessary. The cars should be loaded and unloaded from the center. The railroads can coöperate in this important work by supplying refrigerator cars and ice. When the dealer removes the milk from the car, it should be re-iced on the platform or at the depot and kept iced until delivered.

7. *Condition of Bottles When Returned.*—Much contamination can be avoided if the consumer would properly cleanse the bottles before returning them. They should be washed promptly, and never used for any other purpose. We have found cases where drugs, dirt, and even urine, have been found in them. In houses in which there are contagious diseases, no bottles should be returned, but broken and thrown away. In apartment houses, it is usually customary to collect the bottles in the basement, where they are afterward sorted out by the dealers. All kinds of impurity thus get in, making it frequently impossible to thoroughly cleanse these bottles. Thousands of bottles every year are collected by Italians from the dumps, and returned to the Bottle Association, which sorts them out, washes, and returns them to the owners.

In our inspection of creameries, it was found that thousands of Croton bugs were returned in bottles and boxes. The cans are also often returned with portions of decomposing milk remaining in them, the boxes containing the bottles may be mouldy, with parts of the wood rotten from being smeared with decomposing milk, and so forth. The railroads should be requested never to receive bottles, boxes or cans containing any fluid milk. We found that boxes and cans are often thrown off from the train by the roadside, where they may be left for hours, exposed to the sun. Utensils subjected to this treatment are only fit to be used again after sterilization, and farmers usually have no such facilities; the creameries may have, but seldom use them.

The various data here recounted are the results of a summer study of the milk question. The information is the result of thirty visits made to various farms and dairies, some at a distance of 180 miles. Each of these visits consumed, at least, one day and some several days, so that a thorough study of the matter could be made. In the work of the Commission, the individual farm or dairy, and not the milk company, has been regarded as the unit for study and investigation. It was found necessary to work in this manner in order to get good results; in some cases, several visits were made to a given plant. As an example, a large plant was visited on August 11th; the farm was visited during milking time. The notes show that the cows were fairly clean, the barn was defective, showing hay protruding from the ceiling and covered with cobwebs and dirt. Windows dirty. The barn had a southern exposure, so that the sun increased the heat. The manure gutter was not clean; the bedding of shavings had not been removed. Various articles were stored in the barn, such as feed, farming utensils, and the clothing of the men. The cows were getting full rations of hay; the animals were hot and restless, and covered with flies, which necessitated a constant moving of the tail. No means were supplied for keeping the cow quiet during milking. The milk was strained in the barn with a wire strainer, which was bent and rusty. The dairy-room was hot and sunny, showing dust and flies. The milk was passed over an aerator, in which the temperature of the water was found to be 60° F.; the receiving vat and stationary vats were not covered, so that flies and dirt got in. The bottles were standing in ice-water at 50° F. A fair sample of milk produced under these conditions and tested at once, showed a bacterial count of 455,000.

Suggestions just described were offered, and four days later a second visit was made. As the result of specific directions, in the barn the walls were whitewashed, windows cleaned, and green shades had been placed at the windows having a southern exposure. The floor was cleaned and the bedding had been removed; the manure gutter was also clean, and land plaster had been sprinkled on the floor and manure gutter. All storage of feed and utensils had been removed. The cows were getting scant grain rations, so that there was not a large pile of hay before the animal that would fill the air with dust and induce movements of the body. The cows were well cleaned. The barn was cooler, and hence the animals were not so restless. The milk was not strained in the barn, but removed at once to the dairy. The dairy-room was clean, dark and cool, with receiving and stationary vats covered with cheese-cloth. The temperature of the water in the aerator was 40° F. The bottles were standing in ice-water at 38° F. A fair sample of milk thus produced, showed a count of only

3,600 to the cubic centimeter. This is not an exceptional condition, as a similar experience was repeated at four different times and places. This shows that an elaborate and expensive plant is not necessary to put out a clean milk. What is needed is intelligent attention to detail. A small as well as a large producer can furnish clean milk.

The following example will illustrate an experience with a small dealer, the visit being made September 5th. The cows, barn and man fairly clean. Utensils fair. No aerator and no steam. Ice was being used sparingly. Milk drawn under these conditions was placed in water at 70° F., then taken to the creamery for bottling and sent to the city. An examination here showed a count of 89,000. Various suggestions were offered, and the second visit made in eight days. Result, cows and barn well cleaned, the milk strained through absorbent cotton and cheese-cloth attached by clothes-pins to a forty-quart can, which was kept standing in a box surrounded by ice. This can had previously been steamed for twenty minutes at the creamery. The can was then taken to the creamery and placed in a vat of ice-water at a temperature of 40° F. In three hours the temperature of the milk stood at 44° F. It was then bottled and sent to the city. A sample of this milk showed a count of 5,400, as the result of the few simple changes suggested. Even a creamery is not necessary for a small dealer to put out milk up to the standard of the Commission. As an example, milk was sent from a small farmer, where cooling to 40° F. was practised within fifteen minutes after milking. This milk was sent to the city in 40-quart cans, surrounded by jackets. Samples taken on the platform in New York at 3 a. m. showed a count of only 3,000.

All the visits made to these farms were educational. The whole family, including wife and children, became interested and coöperated in the work. The attention of neighbors was also attracted to the improvements, which were often imitated, and formed the subject of evening discussion at the village grocery-store.

The Commission has no special method to advise, but asks a hearty coöperation from everyone concerned in handling the milk. The methods must vary with each plant. In general, it may be said that the following three heads include the essential conditions: (1) Strict cleanliness, which includes the barns, yards, cows, milkers and all utensils. Bacteria which get into the milk by means of dirt are thus thoroughly excluded; (2) rapid and sufficient cooling of the milk (the few bacteria that do get in are thus prevented from growing); (3) thorough icing around the milk until it reaches the consumer. The production of toxins from the growth of bacteria is thus retarded.

In every case the dealer has been able to reach the standard of the Commission without expensive apparatus, by following the indicated details. The one thing always necessary is plenty of ice. At the same time, great labor has been done by farmers and dairymen as the result of suggestions by the Commission. New plumbing has been put in, new dairy-rooms have been built, floors have been cemented, ceilings made tight, and time and endeavor have not been spared. One dealer was so impressed with the subject of right conditions that a special new barn was put up in order to meet them. Two others are planning new barns that will ensure hygienic conditions. Even where the milk has not reached the standard for certifying, great advances have been made, and the general output improved. Eight dealers are now putting out some of their milk up to the standard of the Commission. They are as follows: Slawson Bros., Briar Cliff Farm, T. W. Decker & Sons, Mrs. Van Zandt, Sheffield Farms, Mr. Tuthill, Harlem, Century Co., Locust Farms, and Mr. Keller. Many others are making changes and applying for a certification, who will doubtless pass the test of the Commission.

In spite of the summer having been the hottest in thirty-one years, all those who have been certified have kept up to the standard under most trying conditions. The thanks of the Commission and of the community at large, are due to these dealers, who have shown great interest in this work and have not spared labor or sacrifice in keeping up to the standard. The milk of each dealer has been examined about twice a month during the summer, and labels given that can be placed in the mouth of the bottle, as a proof of certification. The bottle for examination is collected from the dealer in the morning, placed in a bag surrounded by ice, and at once taken to the laboratory. If the milk shows a test close to the limit established by the Commission, a second examination is made in a few days. In the meantime, an effort is made to find out the source of trouble, in order that it may be corrected.

The Commission feel gratified at the interest excited in this movement on the part of the farmers, milk-dealers, the daily press, and the dairy journals. It is hoped by this movement to inaugurate a general improvement in the production and handling of milk destined for large cities.

Commission. { Henry Dwight Chapin, M.D.
Walter Lester Carr, M.D.
Abraham Jacobi, M.D.
Joseph E. Winters, M.D.

Virchow Celebration in Chicago.—The German-American Medical Society celebrated the eightieth birthday of Professor Virchow in the new banquet hall of the Bismarck October 12th. Seventy physicians sat down to the feast. Dr. Gustav Fuetterer acted as toastmaster. The committee was composed of Dr. Saurenhaus, Dr. Heyn, and Dr. Gustav Kollischer. Dr. G. Frank Lydston and Dr. Norval H. Pierce, guests of the Society, made speeches.

MEDICAL PROGRESS.

Diseases of the Esophagus and Esophagoscopy.— The possibility of examining the esophagus visually throughout its entire length makes it comparatively easy to distinguish anatomical alterations from nervous and neuromuscular conditions, nevertheless esophagoscopy is rarely utilized to-day, even by specialists, because of its supposed difficulties and dangers. The technic of this procedure is fully described by F. SCHILLING (*Wiener med. Bl.*, Sept. 5, 1901). Ordinarily the esophageal mucous membrane appears pale; in inflammatory conditions it is red and its blood-vessels are visible. Stricture is due to compression from without, or to tumors, infiltrations or scars developing in or springing from a wall of the canal. Cicatricial contraction is usually a slow process, even when due to chemical irritation by acids or alkalies. Systematic dilatation may lead to temporary relief or even to permanent cure of stenosis. Esophagismus is most frequent in hysterical subjects; the variability of the stenosis and the presence of other stigmata furnish the diagnosis. Polypi, if present, are easily removed. Thrush invades the esophagus in marantic children and weak adults. Catarrhal ulcers yield readily to applications of silver nitrate solutions; syphilitic ulcers demand the usual specific treatment. Diverticula may be suspected when patients complain of pain after eating; the pain is usually in the lower sternal region. Occasionally masses of undigested food are discharged, with alkaline mucous and an absence of free hydrochloric acid. Esophageal dilatation is usually an accompaniment of catarrh or stenosis; the esophagoscope shows a lax mucous membrane lying in folds, while the end of the tube can be moved about in various directions. Carcinoma and actinomycosis are accompanied by symptoms of stenosis, marasmus, and fetid odor are late symptoms, while the esophagoscopy permits a diagnosis to be made in the stage of early infiltration. Varicosities occur in hepatic cirrhosis and disturbances of the portal circulation and may result in fatal hemorrhages. When foreign bodies are present in the esophagus, the use of the esophagoscope will often suggest means for their removal without resort to surgical operation. Emetics were formerly employed to further the discharge of foreign bodies, but they are uncertain at best and where sharp objects are present they may cause serious mischief.

Tuberculosis of Female Genitals.—In the presence of extensive ascites which recurred quickly after tapping, unfavorable surroundings, the lymphatic constitution of the patient, the lack of means, the initiation of morbid symptoms by an attack of measles, and an afternoon fever, J. L. DUENAS (*Archives of Pediatrics*, Oct., 1901) performed laparotomy.. He found both ovaries studded with miliary tubercles, and in the left ovary four tuberculous cavities. The right Fallopian tube was filled with cheesy matter, the mucous membrane having been destroyed. The adjacent peritoneum also bore tubercles, but in no part was there fibrinous exudation, purulent collection or adhesions. The uterus and appendages were removed, the peritoneum wiped dry, and the patient is now enjoying good health. The author concludes that in the absence of a bacillary purulent vaginal discharge, primary tuberculosis of the female genital tract cannot be detected.

Clinical Form of Acute Malignant Primitive Endocarditis.—The term *febris pallida* is proposed by L. REVILLIOD (*Revue Méd.*, Sept. 20, 1901) to indicate what he regards as a definitely characterized type of vegetative endocarditis, due to staphylococcus albus. The principal symptoms are (1) a fever which oscillates between 38° and 38.6° C., rarely rising above 39° C.; this fever is extremely obstinate, but is accompanied by almost no subjective symptoms; (2) a pallor of the skin which persists even during the febrile exacerbations. For a considerable period the various bodily functions are normal; the general health is practically unaffected. Then there follows a period of lancinating pains referred to the shoulders and down the arms, moderate anhelation without marked dyspnea; enlargement of the spleen; diminution of the urine, which becomes charged with uric acid and urates. Stethoscopic signs are noticed during this stage. In the terminal period cachexia is marked; there is marked general weakness, emaciation, serous effusion in the thoracic cavity. The disease may last four months or more. In the presence of such a clinical picture, after excluding other diseases and especially discrete miliary tuberculosis, the clinician should suspect this form of infectious endocarditis, which is as malignant in reality as it is benign in appearance.

Infectious Pneumonia.—Pneumonia is not a specific disease, writes W. S. MUIR (*Montreal Med. Jour.*, Sept., 1901), and may be caused by other organisms, but in typical croupous pneumonia the pneumococcus is always present. This organism has also been found in bronchopneumonia, in hypostatic pneumonia associated with pyogenic germs, in influenza pneumonia with the influenza bacillus, in typhoid pneumonia with the typhoid bacillus and even with the colon bacillus, and occasionally in bronchpneumonia with the diphtheria bacillus. The microbe can exist harmlessly in the sputum, but, like the streptococcus, it may become pathogenic and ubiquitous. It has been found in otitis media, meningitis, ulcerative endocarditis, pericarditis, empyema, etc. Rabbits and white mice are very susceptible to it. To find it, stain a cover-glass preparation for 5 to 10 minutes in anilin gentian-violet, drain off and immerse for one-half to two minutes in iodine 1, potassium iodide 2, and water 300 parts. Wash in alcohol till no more color runs off the cover slip, wash in water, dry, and mount.

The Medical News.

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OF MEDICAL SCIENCE.

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SMITH ELY JELLIFFE, A.M., M.D., Ph.D., Editor,
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SATURDAY, OCTOBER 19, 1901.

SILENT?

Silence may mean reserve, it may mean chagrin, it may mean confusion. The gentlemen who did not hesitate to criticise the President's physicians and to offer *post hoc* suggestions as to what might have been done, have kept strangely silent for the last fortnight. There have been no further confidences to the daily press concerning errors in judgment, nor slurs upon the attending surgeons, neither have there been any words of apology, nor any signs of appreciation that their attacks were uncalled for and out of keeping with the dignity of the profession.

It is needless to say that the physicians of the State and country have stood by the President's physicians and that they in turn have appreciated the united spirit of the medical press in condemning those who so unexpectedly and unwarrantably heaped criticisms upon them.

Before the evidence was all in if praise was not forthcoming, silence would have been the more noble part, but since the oracles were so outspoken with such little data, why should they preserve silence now in the presence of the full report?

THE FINAL VERDICT.

The official account of President McKinley's case, including the autopsy, which we print on another page, comes to complete the story which has already been told in part in our earlier numbers.

The clinical report tells its own story. The pathological findings may be briefly summarized as follows: The two wounds in the stomach had been and remained effectually closed by suture, but about each of these was an area of necrosis. Behind the stomach, along the course of the bullet in the posterior wall of the trunk which extended to the upper end of the left kidney there was extensive necrosis of the abundant fat and of the central portion of the pancreas, and this latter organ showed throughout numerous small hemorrhages and areas of gray softening. There was no peritonitis and no bacteria were found in the wall of the necrotic track in the back or in the liquid which bathed it. The pancreas had not been wounded by the bullet, and there was no evidence that pancreatic juice had escaped and come in contact with the injured parts. The injuries do not specify the cause of death, but express the opinion that the changes found in the pancreas were an important factor therein.

With regard to the operation the only question that could fairly be raised is as to the correctness of the decision not to provide drainage through the operation wound, and it seems to us perfectly clear that such drainage could have served no useful purpose and that the determination not to incur its risks was wisely taken. The continued presence of uninfected exudate, which might have been removed by such drainage, could have played no important part in bringing about the fatal result, and the formation of the two sloughs in the wall of the stomach, which apparently would have separated in a short time, if the patient had lived long enough, and caused a promptly fatal peritonitis, would not have been prevented by drainage, but, on the contrary, might have been hastened thereby. Posterior drainage, through the back, was of course wholly out of the question on operative and anatomical grounds.

As to the decision to make no further search for the bullet, there can be no question of its propriety. It was imposed by the operative conditions. The thickness of the anterior abdominal wall, and the evidences of increasing and dangerous shock during the operation—was

supported by universal clinical experience of the harmlessness of such foreign bodies, and was confirmed by the findings of the autopsy which gave no indication that the continuing presence of the bullet had anything whatever to do with the necrotic process along its track or the changes in the pancreas, and furthermore showed that such a search would have been fruitless. The failure to find it at the autopsy is easily explained by the enormous (the term used by the pathologist) deposit of fat into which it was traced and within which it was doubtless imbedded. Even supposing that its position could have been determined at any time, at the operation or later, by the use of the X-rays, can any one think that advantageous use could have been made of the information? Consideration of the operative conditions involved can give but one answer.

While it is to be regretted that the cause of death remains obscure and perhaps undeterminable, we are glad to believe that the official report confirms the opinion of the propriety and skilfulness of the treatment expressed by us in our issue of September 21st, and justifies us in saying that it is a clear and full story of a skilful, judicious operation which failed to save life through no error or eversight but solely because of conditions which could not have been prevented or remedied.

A TRIBUTE TO OLD AGE.

WHEN Cicero wrote "Cato the Elder," he chose this man "who had been old so long, and in his age had surpassed all others in vigor," to be the mouthpiece of his philosophy. It might have been Virchow, the octogenarian scientist, uttering these two thousand year old words.

"One who lives absorbed in his work does not very much notice when old age creeps upon him." "Old age must be resisted and its faults counterbalanced by diligence. It must be fought against as one would fight against disease. Nor must we aid the body alone, but the mind and soul much more, for these also, unless we feed them as we pour oil into a lamp, will be extinguished by old age."

This is the spirit that makes men immortal, and it is this indomitable, indefatigable energy, this twenty-century-old pluck, this youth in old age, that has made Rudolf Virchow the hero as well as the father of German medical science.

Simultaneously, as he approached the portal of his eightieth year, did his pupils, friends and admirers in both continents, rise to their feet to do him honor.

A dinner given at Sherry's on the evening of Saturday, October 12th, was the form in which American physicians celebrated his birthday. And to it came the members of the New York Academy of Medicine, and men of prominence from other cities, men who realized that their knowledge of medical science was based on the foundations that Virchow had been hewing and building through sixty years of tremendous work.

There is perhaps no greater thrill of pleasure than that which comes with the disinterested recognition of the presence of greatness. The societies in New York, Paris, Vienna, Chicago and St. Petersburg, where his birthday was celebrated, felt a sense of envy of their confrères in Berlin who had the privilege of entertaining the person of their noble guest. But though his physical presence was lacking, there were those in New York who successfully conjured the spirit of the master to the birthday board.

Dr. Osler, Dr. Welch, Dr. A. H. Smith, and Dr. Jacobi, all personal friends of Prof. Virchow, gave of their intimate knowledge of his scientific work, his life and character, to those who knew him only through his writing.

The fact that Prof. Virchow's work and fame were to most American physicians signalized by the old modest green pamphlet that has for over fifty years been edited by him, gave Dr. Dana a happy thought, and the menu which he devised had for its cover a facsimile of the *Archiv für pathologische Anatomie und Physiologie, und für klinische Medicin.* Within were two beautifully executed portraits of Prof. Virchow, one reproduced from a photograph given to Dr. A. H. Smith in 1859, and the other taken in old age.

TRAUMATIC NECROSIS OF THE PANCREAS.

SINCE the Buffalo tragedy the subject of traumatism of the pancreas, with attendant necrosis, has had more than a merely clinical and pathological interest for members of the medical profession in America. In a certain sense the subject has become one for popular as well as professional study; at all events while the lay press may not have succeeded in imparting to the popular mind a clear knowledge and understanding of pancreatic necrosis, it has aroused so widespread an interest in the matter that the profession will welcome every relevant clinical report. Not every physician can hope to cite cases of pancreatic necrosis from his own practice, and

yet every one is expected by his patients and friends to have an expert knowledge of the subject.

While serious trauma of the pancreas usually is followed by a speedy fatal termination, exceptions to the rule are to be found in literature. Hahn reported a case of bullet-wound of the liver and pancreas, in which the patient recovered, notwithstanding complete pancreatic perforation, presumably with escape of pancreatic secretion into the surounding tissues. Gessner reported six cases of trauma resulting in pancreatic necrosis.

As to the direct cause of the necrosis several suppositions are admissible. It may be due to escape of pancreatic secretion, with resulting action on the pancreatic tissues and on the intra-abdominal fat; this theory is supported by the fact that necrosis is most frequently observed in the immediate neighborhood of the injury to the gland. Another view presents the necrosis as the direct or primary result of the trauma itself; while a third regards the necrosis as due to bacterial invasion of an injured area.

An interesting case of traumatic necrosis of the pancreas is reported by F. Selberg in the *Berliner klinische Wochenschrift* of Sept. 9, 1901. The patient was kicked by a horse, receiving the blow in the epigastric region through thick clothing which prevented any injury to the skin. He complained first of pain and tenderness in the epigastrium. There was no rise of temperature, no increase of pulse-rate, no abnormal cardiac or pulmonary sign, no swelling, no vomiting. Gradually dyspnea set in, and later examination showed slight swelling, dulness over the lower part of the left lung which afterward changed to flatness, diminished respiratory murmur over the flat thoracic area, abdominal distention with tympanitic percussion note except over the dependent portions of the abdomen, where dull percussion note and slight fluctuation were obtained. The highest temperature recorded in this case was 36.7° C. Two liters of sero-hemorrhagic fluid were removed by puncture and aspiration from the left pleural cavity 19 days after the receipt of the injury; the following day the patient died, attempts at stimulation proving utterly useless. On opening the peritoneal cavity it was found to contain a fibrino-purulent exudate, with intestinal coils matted together. Necrotic areas were found in the great omentum. The head of the pancreas was necrotic, soft and friable. The remainder of the pancreas was hemorrhagic, infiltrated and discolored.

While but few microscopical findings in cases of traumatic pancreatic necrosis have previously been reported, the examination made in this case shows no noteworthy departure from the conditions which are known to exist in non-traumatic cases. Pancreatic disease was not diagnosed during life. The pleural exudate was revealed by the physical signs, and aside from this the case was thought to be one of perforative peritonitis.

THE NEW YORK STATE MEDICAL SOCIETY MEETING.

The first semi-annual meeting of the Medical Society of the State of New York held during the past week here in New York city, a report of whose proceedings will be found in our columns, must have proved a very gratifying success to its projectors. It undoubtedly drew crowded houses to its sessions and reawakened lively interest in the society in New York city. The experiment of a semi-annual meeting in this city in addition to the regular annual meeting in Albany deserves to become a permanent feature. There was but one fault with the meeting; so many papers were offered that there was not due time for their presentation and consideration. This is the recurring complaint at all medical meetings and shows the absolute necessity for some method of selection of papers before all meetings.

The reception given by the New York County Medical Society to the visitors was as enthusiastic a success as any medical event of recent years. The scientific features of this session deserve wide attention from the profession. The symposium on Diseases of the Liver and Bile Passages on Tuesday night brought out the recent views on the principal details of these frequently seen conditions that are at present at the very acme of interest all over the medical world. The discussion on pneumonia initiated by Dr. J. C. Wilson, of Philadelphia was not encouraging from the standpoint of new therapeutic suggestions but it made clear the present position of conservative medical opinion with regard to the failure of supposed specific medication and the routine of treatment that seems most rational to employ. Besides these the papers on tuberculosis and Dr. Howard Kelly's demonstrations of the vascular supply to the kidney were contribu-

tions to medical practice and science that deserve widespread attention.

We welcome the New York State Medical Society and congratulate its officers on the high standard they have set.

THE PATHOLOGICAL INSTITUTE.

THE correlation of sciences in the study of the sciences was the fundamental conception of the old Pathological Institute, and an excellent controlling spirit it is. We are glad to see that the new Institute is to represent this spirit in even a wider sense by the appointment by Commissioner Peterson of several scientists of world-wide reputation.

The Advisory Board just appointed would make an ornament to any institution and New York State is to be congratulated on having a leader who is capable of gaining the coöperation and support of such men.

ECHOES AND NEWS.

NEW YORK.

Appointment of an Advisory Board for the Pathological Institute of the State Hospitals. —The plan of reorganization of the Pathological Institute of the New York State Hospitals for the Insane undertaken by the State Commission in Lunacy is gradually taking shape. In order to add to its efficiency a great deal of careful thought was given to the matter of the appointment of an Advisory Board, whose duty it should be to aid in the development of the Institute and the carrying on of its work on broad lines and to assist the new Director soon to be appointed by its valuable advice. It is the aim of the reorganized Institute to carry on work in the sciences correlated with psychiatry much according to the original scheme, but with a few modifications calculated to meet more immediately the needs of the hospitals as expressed by the superintendents and to meet some of the criticisms of the former plan. Original research in the various sciences having a bearing upon the subject of insanity will go on as before, but in addition thereto the Institute will be utilized to give special instruction in clinical psychiatry, as well as methods of scientific research to the physicians on the staffs of the hospitals for the insane and to young men about to take up an asylum career. In order to obtain this clinical experience the Institution needs to be combined with a hospital for the insane, and to bring this about it is for the present to be connected with one of the asylums on Ward's Island, and until such time as a reception hospital for the insane can be established in Manhattan.

In selecting the members of the Advisory Board, the Lunacy Commission deemed it expedient to have the three University Medical Schools of New York City represented, *viz.*: Columbia, Cornell and Bellevue-University. Furthermore it was considered to accord to the chief sciences correlated with psychiatry representation upon the Advisory Board. These sciences are pathology, chemistry, psychology and general biology. Inasmuch as the Pathological Institute was created for the utilization of the material of all the State hospitals, and for the purpose of raising the standard of scientific study, treatment and care of the insane under State care, it was thought best that these institutions should also have a voice upon the Advisory Board. A member to represent general clinical medicine and neurology was likewise selected.

Accordingly the Commission in Lunacy has established an Advisory Board consisting of the following gentlemen: Dr. J. McKeen Cattell, Professor of Psychology, Columbia University; James Ewing, Professor of Pathology, Medical Department of Cornell University; Dr. Christian A. Herter, Professor of Pathological Chemistry, Bellevue and University Medical College; Hermon C. Bumpus, Assistant to the President of the American Museum of Natural History, to represent the department of General Biology; Dr. Henry Hun, Professor of the Diseases of the Nervous System, Albany Medical College, to represent Neurology and General Clinical Medicine; Dr. Charles W. Pilgrim, Superintendent of the Hudson River State Hospital, at Poughkeepsie, and Dr. A. E. Macdonald, Superintendent of the Manhattan State Hospital, East, to represent the State Hospitals; Dr. Frederick Peterson, President of the Lunacy Commission, a member ex-officio.

All of the appointments to the Advisory Board are permanent except two. The two superintendents of asylums on the Board were elected by the fourteen asylum suprintendents of the State at a meeting held in Buffalo, September 28th, for a term of two years only, thus permitting all of the asylums to be represented in rotation on the Board.

All of the gentlemen selected have accepted their appointments. They serve the State without charge, willingly giving their time and services free for the cause of science and to advance the interests of the insane.

From some of the letters of acceptance the following quotations may be made to observe the spirit in which the appointments have been accepted:

Prof. Cattell writes: "I shall be glad to be a member of the Advisory Board of the Pathological Institute. I have followed the history of the Institute with some care and am much interested in its reorganization on lines that will both advance science and be of use to the hospitals for the insane of the State."

Prof. Ewing writes: "I have always felt an active interest in the permanent success of this institution, and will serve you in any way likely to further that end."

Prof. Herter writes: "I am confident that a board constituted as you propose will prove distinctly helpful in selecting the most promising paths of research. It will be a pleasure to me to do whatever I can to further the usefulness and success of the reconstructed Institute."

Prof. Hun writes: "I have always taken a great interest in the Pathological Institute and I very gladly accept the position which you offer. I stand ready at all times to do all in my power to further the interests of the Institute and its scientific work."

Manhattan Dermatological Society.—A regular monthly meeting of the Manhattan Dermatological Society was held on Friday evening, October 4, 1901, at the residence of Dr. I. P. Obendorfer, No. 1037 Lexington avenue, with Dr. Wm. S. Gottheil in the chair.

Dr. Wm. S. Gottheil presented a child of seven months with *favus corporis*. The interscapular region showed three patches which were typical of the disease. No history of infection could be elicited, nor were any subjective symptoms present.

Dr. E. L. Cocks showed a baby of two months with redness and scaliness of the lower abdomen, buttocks, inner surfaces of the thighs and part of the legs. The case was presented for opinions as to its *syphilitic nature*.

Dr. Kinch inclines toward a diagnosis of syphilis on account of the marked involvement of the lower extremities. Dr. R. Abrahams calls it eczema intertrigo. The absence of hepatic enlargement, snuffles and fissures at the angles of the mouth speak against syphilis. Dr. J. Sobel terms these cases dermatitis erythematosus eczematoides. A case of syphilis with such involvement of the buttocks would show rhagades of the anus and mouth. Dr. Oberndorfer considers it an intertrigo with more intense manifestations than usual. Drs. Bleiman and Geyser exclude syphilis and call it intertrigo. Dr. L. Weiss says the case is typical of seborrheal eczema of the newborn, the lesions in the inguinal region and inner surfaces of the thighs being modified by moisture. Dr. Gottheil calls it seborrheal eczema. Dr. E. L .Cocks in closing stated that he did not regard it as syphilis, but thought that it presented features worthy of differentiation.

Dr. E. L. Cocks presented *three cases of syphilis* in a mother and two children, the former being the primary source of infection. Seven months ago the mother presented herself with a chancre, mucous patches, iritis and a syphilide. In spite of specific directions as to the dangers and consequences of infection, the first child, a girl of 13 years, had a chancre of the right tonsil three months after, and the second girl a syphilide with specific pharyngitis, four months after. Dr. Sobel remarked that cases of family syphilis were not very uncommon, and to put it mildly were deplorable. Dr. Weiss thought that such cases should urge one to have syphilis classified by the Board of Health as a reportable disease. Dr. Gottheil stated that infection through the mouth is not at all uncommon and often explains many obscure and mysterious cases.

Dr. R. Abrahams presented a woman with a *parasitic eczema* of ten years' duration, involving the abdomen and thighs. The flexor surfaces of the arms showed a papular eczema very suggestive of lichen planus. Dr. Kinch thinks it a combination of eczema and lichen planus. Dr. Bleiman calls the arm lesions lichen and the genitals and thighs eczema marginatum. Dr. Oberndorfer considers it an atypical psoriasis. Dr. J. Sobel calls the condition eczema, mycotic on the abdomen and thighs, papular on the forearms. The arms show the retrogressive eczema papules which, as Gottheil states, so closely resemble lichen. Dr. L. Weiss considers it eczema marginatum aggravated by acute attacks. Dr. E. L. Cocks would diagnose eczema and lichen. Dr. Gottheil considers it a mycotic eczema. Dr. Bleiman presented a woman with *vitiligo* of the arms, face, and body.

Dr. J. P. Oberndorfer showed a man with *gumma* of the *glans penis* to demonstrate how difficult at times differentiation from chancroid proves. No history of previous syphilitic infection could be elicited.

Dr. J. Sobel presented a man with *eczema marginatum* of the suprapubic region and thigh.

Dr. R. Abrahams showed a girl of 13 years with *herpes tonsurans maculosus et squamosus*. The body presented scaly patches of various shapes and sizes. Drs. Kinch, Cocks, Oberndorfer, Geyser, Weiss and Gottheil consider it seborrheal eczema. Dr. Bleiman remarked that the involvement of the scalp, forehead and back of the ears spoke for seborrheal eczema. Dr. J. Sobel stated that against pityriasis rosea might be mentioned, the thickness of the scales, their oiliness, the infiltration of the skin and the greater elevation of the lesions.

Dr. R. Abrahams presented a child with a *chronic papular eczema* of the body.

Dr. Oberndorfer would call it lichen acutissimus, Dr. Bleiman keratosis follicularis, Dr. Gottheil congenital follicular keratosis, Dr. Cocks seborrheal dermatitis.

Rockefeller Research Plan.—Plans for the work to be taken up this winter by the Rockefeller Institute for Medical Research, which was founded several months ago by John D. Rockefeller with a fund to begin work with of $200,000, were considered by the Board of Directors at a meeting held Saturday afternoon in this city, and at which all of the men whom Mr. Rockefeller selected to manage the institution were present. It was the second quarterly meeting to be held since the founding of the institute. At it, according to Dr. Holt, who was authorized to give out an outline of the plans decided upon, it was decided to begin the work of research in earnest this winter, and to that end nineteen fellowships were established. The persons having these fellowships will work in laboratories in Chicago, Montreal, Philadelphia, Ann Arbor, Boston, Baltimore and other cities. Only one

is to work abroad and the person to do this has already been selected and is on his way to his new field of labors, which will be in Prof. Ehrlich's laboratory in Germany. This worker is Dr. Marshall, a pupil of Dr. Welch's. Names of the others who will engage in the work of research have not yet been given out, as only a few have been selected. The men who so far have been asked to work for the institute have been engaged for some time in laboratories, and it was by writing to those laboratories and seeking their best workers that the selections were made. This will be done in the case of all the others to be appointed. All the fellowships are for one year, during which time every person holding one will be asked to do original investigating and submit a report of his work to the board, which probably will have it published if it is found to be of value to the medical profession. The investigation of the milk supply of this city, which was the first work to be taken up by the institute, and which went on during the summer, has been completed and a report of it is already in the hands of the directors. Dr. Holt said that possibly it may be made public at some future time, but not at present. The investigation was an exhaustive one, three workers being employed, one to inspect dairies and the transportation; another to do bacteriological work and the third to examine the supply in institutions in relation to the health of the inmates.

Another investigation was also started in the summer, but has not yet been concluded. It was of the germ which causes outbreaks of dysentery and was made by Dr. Flexner of the University of Pennsylvania. Dr. Flexner has already visited two places where such an outbreak occurred, New Haven and Lancaster, Pa., but he has not yet submitted his report. The work to be taken up this winter, Dr. Holt said, would be more in relation to forms of tuberculosis and typhoid fever. It is understood that the work will take on a much more extensive scope next year, but at this time nothing more will be made public.

PHILADELPHIA.

Death of Dr. Everhart.—Dr. John B. Everhart, a prominent physician of West Chester, died October 8th in his seventy-fifth year. He was a graduate of Princeton and of the University of Pennsylvania and served three years as surgeon in the Civil War.

Dr. Kelly Visits Philadelphia.—Dr. Howard A. Kelly of Baltimore lectured before the Y. W. C. A. of the Woman's Medical College October 8th on "Bible Studies." Preceding the lecture Dr. Kelly was the guest of honor at a dinner given by the Faculty of the College and following it a reception was held at the headquarters of the Association.

Changes in Wills Eye Hospital Staff.—After a service of nearly thirty years as attending surgeon at Wills Eye Hospital, Dr. William F. Norris has resigned the position and will become consulting surgeon. Dr. George C. Harlan has been appointed consulting surgeon and Dr. Paul J. Pontin's assistant surgeon.

Dresses Must Not Be Long.—The Board of Health of Pottsville has ordered all women to wear short dresses in order to avoid gathering disease germs in the street and carrying them to their homes. The collection of cigar stumps on the streets is also prohibited.

Split in Hospital Board.—As a result of the election of superintending physician of the Danville Hospital for the Insane, four of the trustees, Drs. Harvey and Detwiler and Messrs. Scarlet and Holloway, tendered their resignations to Governor Stone. They inform the Governor that it is their belief that "the care and treatment of the insane and management of the institution is not what medical skill and modern treatment demand." Dr. H. B. Meredith was reëlected superintending physician for ten years.

Officers of Pathological Society.—At the meeting of the Philadelphia Pathological Society October 10th the following officers were elected for the ensuing year: President, Dr. Charles W. Burr; Secretary, Dr. J. D. Steele; Treasurer, Dr. T. S. Westcott; Recorder, Dr. David Riesman.

Smallpox.—Sixty new cases were reported for the week ending October 12th, an increase of 20 over the previous week, but only 2 deaths occurred. The Municipal Hospital smallpox ward is overcrowded and will be until the temporary structure for these cases is completed next week.

The Aspect of Disease as Seen in Arctic Alaska.—Dr. Ernest W. Kelsey read an instructive paper on the above subject at the meeting of the County Medical Society October 9th, his observations being based on a stay of two summers and one winter in that region. Physicians there must be their own nurse, apothecary, anesthetist, etc., in most instances. Trained nurses command $15 a day and upward. The diseases most prevalent are cerebrospinal meningitis, scurvy, typhoid fever, and neuralgia, the natives, however, being singularly free from scurvy and meningitis. The typhoid fever cases show a tendency toward absence of rash and low temperatures. Traces of scorbutus are often present. The cerebral form is rampant and difficult to differentiate from cerebrospinal meningitis. Hemorrhages followed by perforation are common. The fever is often intermittent in type and quinine is very valuable in such cases. Rheumatism is usually neuralgic in type, the inflammatory form occurring only in the summer time. The heart is rarely attacked. Pneumonia is met with during the spring and summer months, but rarely in cold weather. Nervous diseases are of two types—structural and psychic. The free use of alcohol has much to do with these lesions. When alcohol cannot be obtained all substitutes are used—wood spirit, tabasco sauce, red ink, etc. Insanity is com-

mon. Diseases prevalent among the natives are chronic bronchitis, consumption, smallpox, and pneumonia in the rainy season.

Alvarenga Prize of the College of Physicians of Philadelphia.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about One Hundred and Eighty Dollars, will be made on July 14, 1902, provided that an Essay deemed by the Committee of Award to be worthy of the Prize shall have been offered. Essays intended for competition may be upon any subject in Medicine, but cannot have been published, and must be received by the Secretary of the College on or before May 1, 1902. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the College; other essays will be returned upon application within three months after the award.

The Alvarenga Prize for 1901 has been awarded to Dr. George W. Crile, of Cleveland, Ohio, for his Essay entitled: "An Experimental and Clinical Research into Certain Problems Relating to Surgical Operations."

CHICAGO.

Resolutions on the Death of Dr. Jones.—At a meeting of the Chicago Ophthalmological and Otological Society, held October 8, 1901, the following resolutions were adopted: *Resolved*, That the members of this Society having heard with deep regret of the recent demise of their colleague, Dr. S. J. Jones, desire herewith to express their appreciation of his faithful service in the medical profession of this city, and to testify to the valuable contributions he has made to the subject of ophthalmology. *Resolved*, that a copy of these resolutions be sent to his family.

Resignation of Dr. Dudley.—Dr. C. C. Dudley has resigned the chair of Gynecology at the Northwestern University Medical School, a position which he has filled for many years.

GENERAL.

Laying of Corner-Stone at the University of Michigan.—This ceremony was performed Tuesday, October 15, 1901, An address was delivered by John A. McCorkle, M.D., class of 1873, of Brooklyn. Also an address by Leartus Connor, M.D., of Detroit, president of the Society, with introductory remarks by Honorable Herman Kiefer, chairman of the Committee on the Department of Medicine and Surgery. Remarks were made by President James B. Angell, followed by an address by J. George Adami, M.D., of Montreal.

The Canteen in Its Sanitary Relations.—At the recent meeting of the American Public Health Association at Buffalo the regrettable results of the recent legislation respecting the Army canteen was a prominent topic under consideration. All the Army medical officers present gave strong testimony as to the harmful working of the system established in place of the former canteen, and resolutions deprecating the change were passed unanimously.

Hospital Staff Resigns at New Rochelle.—The physicians comprising the medical staff of the New Rochelle Hospital met October 14th and adopted a resolution notifying the Board of Governors of the institution that after November 1st next they would no longer serve as the physicians at the hospital, and that this action would not be reconsidered unless the board rescinded a recently passed resolution which is distasteful to the doctors. Among the members of the medical staff are Dr. T. P. Berens, Dr. Z. Edwards Lewis, Dr. C. Nelson Raymond, and Dr. L. J. Roberts.

Virchow Dinner Celebration in Berlin.—Prominent men of science from all parts of the world assembled in Berlin, October 12th, to join in the celebration of the eightieth birthday of Professor Virchow. The newspapers devote columns to his eulogy, reviews of his life, instances of his remarkable vitality and incessant work, referring to the fact that he only allows himself four or five hours' sleep daily.

Count von Posadowsky-Wehner, Secretary of the Imperial Home Office; Baron von Richthofen, the Secretary for Foreign Affairs; Herr Thielen, the Minister of Public Works; Herr Moeller, the Minister of Commerce, and other distinguished officials assisted at the ceremonies, which took place at the Pathological Institute. Besides the entire fraternity of medicine of Berlin, there were present deputations from all the German universities. Professor Virchow on entering the hall was warmly greeted. He made a speech which lasted nearly two hours. It was mostly devoted to the development of pathological science. Surgeon-General Schaper then tendered the congratulations. He referred to the gratitude of humanity for the blessings bestowed on the world at large by him whose motto had always been *"Salus populi suprema lex esto"* (Let the people's safety be the supreme law).

The chief function of the evening was a banquet given in the lobby of the lower house of the Prussian Diet, which was attended by a gathering equally as distinguished as that present at the ceremonies during the day. Professor Waldeyer, secretary of the Academy of Science, presented to Professor Virchow 50,000 marks, subscribed by the medical men of Germany to increase the endowment of the Virchow Institute. Dr. Studt announced that Emperor William had conferred upon Professor Virchow the great gold medal for science, and read the Emperor's letter accompanying the decoration, which said in part: "You have broken new ground and laid fresh foundations for medical science. Your name is

written boldly upon the tablets of history, and is honored far beyond the borders of the Fatherland." The King of Italy sent Professor Virchow a gold medallion bearing a portrait of himself.

During the afternoon three Americans, Messrs. Honan, Dickie and Burtis, called on Professor Virchow and, after tendering their congratulations interrogated him as to when he would visit the United States. In reply to their inquiries, the professor said he would make the visit when he was ninety years old.

The issue of October 12th of the *Berliner klinische Wochenschrift* is given over entirely to the Virchow celebration.

SOCIETY PROCEEDINGS.

THE SEMI-ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Held October 15 and 16, 1901, at the New York Academy of Medicine.

FIRST DAY—OCTOBER 15TH.

Pathogenesis of Narcolepsy.—Dr. Heinrich Stern of New York gave the details of a case of pathological sleepiness with his investigations of the causes of that condition. The patient was a man of thirty-five, born in Ireland, abstainer from alcohol, with no sexual history and suffering from gastric indigestion. Six years ago he first noticed some hyperesthesia of the forehead and some other parasthetic sensations. After this there developed a tendency to attacks of morbid sleepiness at unusual times. Only the exercise of the most brutal will-power enabled him to keep awake when the attack was on him. These attacks were automatic and did not seem to be induced by any habits of the patient. His tendency to sleep was so strong that he said that should he fall into a pool when the attack was on him he almost felt that he could not exert power enough to rise.

General Neurotic Condition.—The patient presents absolutely no hysterical stigmata. There is one marked feature in the case, namely a tendency to hyperidrosis. This is particularly noticeable on the palm of the hand and the soles of the feet. Sweat is very abundant just before an attack comes on. The patient is not rested by his sleep at night, though he sleeps for nine hours or more and always awakes fatigued.

Physical Condition.—Careful physical examination showed the presence of slight dilatation of the stomach, the lower border of this organ being several centimeters below the umbilicus. Examination of the stomach contents showed no pathological condition except the presence of hydrochloric acid; and the urinary examination was negative, except for an excess of chloride. This excessive elimination of chlorides is very marked. The coefficiency of the toxicity of the urine was distinctly below normal. There was no history of infectious disease in the case from early childhood. The liver seemed to be absolutely normal in size and consistency and there was no functional hepatic derangement. The interesting feature of the case was the excessive output of chlorides, which was distinctly greater than the intake. Not only that, but the tendency to sweating also consumed a certain amount of the chlorides and so added to their diminution in the system.

Rôle of Chlorides.—The chlorides are taken into the system and are excreted from it as a rule unchanged. Their rôle within the body is entirely a physical one. They have an important influence on the osmotic tension of fluids within the body. It would seem that the true cause of the narcolepsy was the decrease in osmotic tension due to the excessive excretion of chloride. In the study of other cases with this symptom, this factor has not been noted and it would seem as though a more careful study of eliminative conditions with regard to the chloride will throw some light on this symptom-complex which has hitherto been so obscure in its etiology.

Luetic Narcolepsy.—Dr. Edward Fisher of New York said that there is usually an autointoxication present in those cases of morbid sleepiness in which no organic lesion can be found. It must not be forgotten, however, that most cases of symptomatic sleepiness are due to specific disease of the brain. When the tendency to go to sleep can be connected with no special cause and occurs at any time or place with a tendency to last for indefinite hours, or sometimes days, it is almost pathognomonic of cerebral syphilis. The most frequent cause is in the form of an enteritis. There is no form of this so frequent as that of syphilitic origin.

Other Causes.—Dr. Abraham Jacobi of New York says that undoubtedly lues is the frequent cause of morbid sleepiness. At the first symptom of the development of the condition there is usually an attack of melancholia. This form of the disease, however, occurs only in older persons. In younger patients there are a set of causes that it is important to bear in mind constantly. A boy of sixteen walked into Dr. Jacobi's office only this morning suffering from almost constant sleepiness. He had the open-mouth somewhat blank expression and the snoring breathing of a person with enlarged glandular tissue in the throat. Adenoids are undoubtedly a factor in the production, and a very important one, of morbid sleepiness. In this case, however, the added causative factor was undoubtedly masturbation. This practice had commenced at the age of five or six and had continued every day of the patient's life ever since.

Brain Hyperemia as a Cause.—Dr. Kinnear of Clifton Springs, N. Y., said that in many

cases of morbid sleepiness there is a poor circulation in the lower parts of the body. Patients complain of cold feet and when asked to tell say that they are as tired when they wake up in the morning as on going to bed. This means that there is brain hyperemia and the indication is to draw the blood from the brain to other parts by various means, when normal sleep will be induced. Dr. Stern in closing the discussion said that hyperemia is undoubtedly a cause of sleepiness, but only indirectly. The true cause is a lowering of the osmotic tension of the blood. This in his case, and probably in many other of the reported cases, was undoubtedly due to a diminution of the chlorides in the system. So far, however, he has not been able to accomplish an increase in the chlorides and so relieve his patients.

Cardiac Neuroses.—Dr. James K. Crook of New York said that the subject of neurotic conditions of the heart is in a disturbed state because of the number of terms that have been used for supposed divers conditions. Though we know much about the nervous mechanism of the heart, the inhibitory fibers supplied by the vagus, the accessory fibers and the presence of ganglia in the heart itself, we are not in a condition to state the exact cause for cardiac neuroses. The ganglia of the heart seem to have atrophic influence, but so far no changes have been found in them in pathological conditions. The nervous system seems to be mainly concerned with the regulation of the strength of the heart-beat and its relations to the size of the small arteries, so as to control the circulation.

Gastroptosis and Cardiac Neuroses.—Dr. Achilles Rose of New York said in the discussion that tachycardia must not be used as a name for conditions which represent merely accidental quickenings of the heart. The word paroxysmal should always be used with it and should indicate that the patient is liable to frequent relapses of rapid heart-action without known cause. In many of these cases of paroxysmal tachycardia stomach dilatation is found. In Dr. Rose's experience this dilatation of the stomach is relieved by strapping with adhesive plaster, according to Dr. Rose's method; it also causes a disappearance of the attacks of paroxysmal tachycardia.

Dr. Fisher of New York said that in his experience tachycardia was frequently associated with enteroptosis. Many neurasthenic patients who suffer from attacks of tachycardia are really the victims of prolapse of the hollow viscera of the abdominal cavity and it is this condition particularly that requires careful treatment.

The Medical Profession and Private Charitable Institutions.—Dr. Enoch V. Stoddard of Rochester, N. Y., a Commissioner of the State Board of Charities, read a paper on the official relation of the medical profession to private charitable institutions. He said that public charity, as it is administered by the State, is entirely a business matter. The State does not enter upon it for altruistic reasons, but because there is the realization that the indigent classes, when uncared for, take on certain tendencies to active dissatisfaction. It is quite different, however, with regard to institutions founded by private charity. To these the doctor owes his personal service and then his duty to science and in the collection of statistics. Very frequently there is no medical man on the board of managers. Hence the difficulties that frequently arise, though some of them get along very well for years. There has been an unnecessary multiplication of these institutions and the new Charter of the State of New York makes it somewhat less easy to establish them. It is probable that more of these institutions will not be founded for some years. Existing institutions must be improved then. There are 35,000 inmates in such institutions in New York State and the valuable amount of statistical material is constantly going to loss. It seems important that the profession should exert itself to secure proper recognition in the management of these institutions and should encourage the collection of the statistics they afford.

Cerebral Apoplexy.—Dr. Edward D. Fisher of New York said that apoplexy need not necessarily be associated with paralysis. At times the arterial rupture in the brain occurs at a part remote from the motor areas. In such cases there may be other symptoms, loss of memory, a tendency to laugh or to cry without reason, a loss of the sense of one's surroundings. In these cases there is always a general atheroma of the arterial system and early in its development this affects the kidneys. Interstitial nephritis ensues and is followed by hypertrophy of the heart which readily endangers the diseased arteries in the brain. Urinary secretion forms an important index of danger in these cases. Persistent low specific gravity points to progressive arterial degeneration. This may culminate in apoplexy in patients of careless habits, but the apoplectic attack may be cut off for years by the avoidance of excess.

Alcohol in Apoplexy.—In Dr. Fisher's opinion steady drinking of a certain amount of alcohol every day, especially in men of sedentary habits somewhat advanced in years, is of much more danger than periodical excess in the taking of alcohol. Often these people are unaware of the amount of alcohol they are taking. Syphilis is also an important cause. These three conditions arteriosclerosis, alcohol and syphilis constitute the etiology of 90 per cent. of all the cases.

Anomalous Apoplexy.—There are certain forms of cerebral disturbances that are due to temporary arrest of cerebral circulation. This is what used to be called serous apoplexy and is undoubtedly due to localized cerebral edema.

No pathological change is found postmortem and these conditions used to be thought due to uremia. Astasis of circulation occurs with the symptoms of an arterial rupture in the brain. In older people these sometimes take on an epileptiform character, though essential epilepsy never develops after twenty-five. Often apoplectic patients complain of pain in the paralyzed limbs, but this is psychical and not due to a true painful condition.

Gouty Apoplectic Attacks.—Dr. William Browning of Brooklyn said that serous apoplexy occurs especially in persons of gouty habit. Often the administration of a laxative will relieve the symptoms in these conditions. Where a number of these attacks of supposed serous apoplexy occur at autopsy there will often be found the remains of slight hemorrhages. There will be found an atrophy much greater than usual in the limb complained of and this seems to be due to a local neuritis. When the trophic influence of the brain is lost a neuritis held in abeyance before becomes active.

Dr. Jacobi said that there is undoubtedly a true passing apoplexy in which after the interruption of the cerebral circulation in a part of the brain the collateral circulation is rapidly reëstablished and the apoplectic symptoms disappear.

Dr. Elsner of Syracuse said that attacks of serous apoplexy so-called are sometimes due to limited areas of edema of the brain left after uremic convulsions. Localized edema of the motor area causes transitory paralysis.

Causes of Apoplexy.—Dr. Spratling of Sonyea, N. Y., said that 85 per cent. of the cases of epilepsy occur before adult life. Epilepsy after the twentieth year is different from that which develops before. It is the epilepsy of early life that oftenest produces unsoundness of mind. This is because it has a systemic basis. Heredity is a very marked feature in the etiology. Epilepsy occurs in parent and offspring in 16 per cent. of all the cases at the Colony. Alcoholism in the parents is found in 14 per cent., insanity in 8 per cent., and tuberculosis in 13 per cent. This accounts for more than one-half of all the cases. Undoubtedly many cases of early epilepsy develop as the result of birth injuries.

Treatment of Epilepsy.—The bromides are undoubtedly the best remedy to control, but not to cure epilepsy. Owing to the depressing effect upon the system they should be used in combination with narcotics, nutritives, alteratives, baths, enteroclysis, and constant care of the dietary, the amount of exercise, the amount of sleep and the regulation of the daily life. In order to have the system take up bromides better, sodium bromide has been substituted for common salt as a condiment for the food. This proves an excellent method of administering it. Of late an organic compound of bromo-bromine-bromopin has been used. This does not produce constipation, nor hebetude, nor acne. An advantage is that it may be used in the status epilepticus hypodermically without producing abscesses. Surgery sometimes does good in epilepsy but not very often. In one case of Jacksonian epilepsy, with the aura always in the first joint of the thumb, there were nearly 500 attacks in 50 hours. The brain was examined very carefully by a pathologist who was unable to find any pathological change in it.

Asphyxia and Epilepsy.—Dr. Jacobi in the discussion said that asphyxia in the newborn is a frequent cause of cerebral disturbance in later life. The longer asphyxia has continued the more surely will serious conditions ensue. The first care of the obstetrician then must be its relief. If there is a question of the mother and the child, the child must be attended to rather than the mother. In case of severe bleeding on the part of the mother it may be necessary to ask one of the family to make firm pressure upon the uterus, for the doctor must give his attention to the child. Dr. Jacobi suggests that if necessary the doctor should sit on the uterus and devote himself to the child. In Dr. Jacobi's experience dentition does not cause epilepsy, though some concomitant disease may prove a reflex source of epileptic seizures.

Premature Ossification.—Premature ossification of the fontanelles is an important cause of epilepsy and idiocy. These openings should close from the tenth to the sixteenth month. If they are closed at birth or if they close in early infant life at from three to six months, the brain has less chance to develop normally. Epileptic conditions later in life are often due to this cause. This must be distinguished, however, from true microcephalus in which there is failure of the brain to develop and consequent smallness of the skull.

Spinal Anesthesia.—Dr. Willy Meyer of New York said that spinal anesthesia is undoubtedly going to take an important place in modern surgery. Certain momentous questions, however, need to be answered and every careful surgeon who employs this method should note the details of every operation so as to enable us to solve these questions. For instance, should some cerebrospinal fluid be removed before the injection? Should this cerebrospinal fluid be used as the solvent of the cocaine which is to be introduced? Should the injection be made slowly or rapidly? What is the most favorable position of the patient? Should the solution injected be concentrated and what should be its temperature? Answers to these questions will enable us to use this method that we owe in large part to American inventive genius with much more security and assurance.

Question of Drugs.—There are undoubtedly certain inconveniences attached at times to the injection of cocaine. Thus far ordinary co-

caine has been employed, but there is no certainty as to whether betacocaine or tropacocaine might not be employed with less fear of sequelæ. Karschbaum introduced tropacocaine to the profession and in ordinary local anesthesia it certainly has much less after-effect than ordinary cocaine. Solutions for spinal injections should be made fresh for each patient. In Dr. Meyer's work on animals a solution that stood for a week had lost much of its anesthetic properties. When kept for two weeks it was useless. Spinal anesthesia is especially indicated in operations upon the kidney.

Inconvenience of Spinal Anesthesia.—Dr. Mynter of Buffalo said that in one case in which he used spinal anesthesia in an old man for a radical operation for hernia, projectile vomiting occurred. This led to the protrusion of all the intestines through the opening made in the abdominal wall. After their reduction, vomiting recurred once more with a second protrusion of the intestines. When the patient sat up to vomit his intestines were spread out on his abdomen. Where such a complication is feared, spinal anesthesia should not be used.

Prolonged Medication.—Dr. Jacobi of New York said that contrary to the opinion held by some authorities digitalis may be employed over prolonged periods. In cases of acute dilatation of the heart where there is great cyanosis and serious disturbance of the circulation, large doses may be employed and repeated several times until the effect is obtained. Dr. Jacobi does not hesitate to employ a dose of ten to twelve grains of digitalis, repeated once or even twice at intervals of four or five hours, until the serious acute condition is overcome. In chronic loss of compensation, he uses four to six grains of digitalis daily for weeks, or even months, and has no fear of its cumulative effect. Dr. Jacobi usually employs four to six drops of Squibbs' fluid extract per day combined with sparteine, or arsenic, or strychnine. Further details will be found in Dr. Jacobi's article which is to appear in the Medical News.

The President's Case.—Dr. Matthew D. Mann of Buffalo then read abstracts from the autopsy on the late President, which will be found complete in another part of this week's News, and gave some account of the case. Dr. Mynter of Buffalo, another medical attendant on the late President, said that now, after the autopsy and the thorough discussion of the case, there was no doubt in his mind that if the President had to be treated over again he would be treated in exactly the same way as he was. The exact cause of death was unknown. It was probably due to the patient's very sedentary life and lowered vitality.

Early Diagnosis of Pulmonary Tuberculosis.—Dr. J. E. Stubbert of Liberty, N. Y., said that the Roentgen rays are of special service in the diagnosis of early forms of pulmonary tuberculosis. He showed a series of radiograms with a stereopticon that illustrated how much information might be obtained from this method of examination. Very early changes in the lung, especially such changes as occur beneath the surface and which can not be detected by ordinary methods of physical examination are brought out very clearly by the Roentgen rays.

Treatment of Tuberculosis.—Dr. Stubbert said that no worse advice could be given to a person than that sometimes given by family physicians. They say "Go to the country for a while and keep away from doctors." Unless the patient is under the care of a physician serious mistakes will be made and the progress of the case delayed. More improvement will come from treatment in New York City under the care of a physician than in the country without one. In Dr. Stubbert's experience pathological conditions of the nasopharynx often exist and these hinder improvement. It should be a routine practice to examine the upper air-passages of all patients suffering from or suspected of suffering from tuberculosis and then the existing pathological conditions should be treated.

Drug Treatment.—Drugs are important in the treatment of tuberculosis. Where anemia exists, iron and arsenic should be used and static electricity and hydrotherapy employed. Exposure of the patient to the parallel rays of the electric arc will be found of excellent service. Patients should, of course, be advised to eat heartily, but there is almost more danger of overfeeding and consequent disturbance of digestion than there is of underfeeding. When tuberculous patients began to convalesce their appetites are often enormous. Under these circumstances it is important that tonic medicine should be carefully employed and the digestive tract kept in as good condition as possible.

Tuberculosis and Endocarditis.—Dr. J. M. Anders of Philadelphia said that in certain cases of endocarditis, tubercle bacilli have been found in the lesions. As a rule, however, primary tuberculosis of the endocardium is not seen. The endocardium becomes involved secondarily in cases of miliary tuberculosis and at times, also, when there is extensive involvement of the mediastinal glands. The endocardium acts as a protector against tubercle invasion. In this respect it is very much like the inner coating of the blood-vessels. The intima of the blood-vessels is very seldom affected primarily by tuberculous processes and tuberculosis when found occurs in the other coat of the vessels. Tuberculosis of the endocardium can only be diagnosed by exclusion.

Heart Lesions and Tuberculosis.—Long ago Rokitansky said that enlarged heart protected patients from tuberculosis. Traube, Niemeyer and other German authorities were not quite as absolute in this opinion as Rokitansky, but

they agreed that heart lesions served to ward off tuberculosis. According to statistics tuberculosis is less in people with heart disease, but the protection afforded is variable according to the orifice at which the lesion occurs. Of late, moreover, the more careful collation of statistics has shown that heart cases are not spared tuberculosis as often as has been thought. Clinically, in cases of tuberculosis, heart lesions are found in less than 2 per cent. Of the cases, at autopsy, however, according to a recent set of statistics, 16 per cent. of the tuberculous have heart lesions. There are two reasons for this discrepancy: One is that the heart lesion often escapes notice. The other is that the tuberculous process is sometimes latent.

Reason for Protection.—It has been thought that the protection afforded by a heart lesion was due to congestion of the lungs. Abrams pointed out, however, that when loss of compensation occurred tuberculosis of the lungs often becomes fulminant in character. He attributes it to hypertrophy of the heart. It is well known that a small heart predisposes to tuberculosis. Hemoptysis relieves congestion of the lungs, and yet, as is well recognized, often slows the progress of pulmonary tuberculosis. It is probable then that the better circulation in the lungs from a hypertrophied heart has much to do with the protection afforded.

The Uterine Muscle in Displacements.—Dr. Henry C. Coe of New York called attention to the fact that in many cases of prolapse of the uterus with ante- or retroflection it is not so much the position of the uterus as the lack of muscular tone that is responsible for the symptoms. The uterus falls down below the normal plane in the pelvis and then comes the headache, dragging feeling, dyspepsia and other symptoms. A series of operations may be done, relieving the malposition, but if the lack of tone of the muscles continues, the symptoms will not be relieved. The general condition of the patient must be taken into account. The muscular tone must be increased and patients must not be assured of complete recovery by operation alone.

In discussing Dr. Coe's paper, Dr. Grandin said that the symptoms in these cases depend on the sagging and not the tilting forward or backward of the uterus. The improvement of muscular tone must always be borne in mind as an important factor for the relief of the symptoms, but no relief will come unless the uterus is suspended, either by Alexander's method, or from the abdominal wall.

Abdominal Actinomycosis.—Dr. Van der Veer of Albany reported a case of abdominal actinomycosis. The patient was thought to be suffering from sarcoma. So many adhesions were found, however, at operation that it was concluded that some form of chronic granuloma was present. No origin for the disease could be found except that the patient was frequently in contact with hay and straw in feeding animals. The patient is about to make a good recovery under simple drainage. Dr. Van der Veer found iodide of potash of distinct service in the treatment of the case, and also Fowler's solution. He suggests the more careful preparation of grains for food. It is possible in cereals that the actinomyces fungus finds a way into the human subject.

EVENING SESSION.

Symposium on Some Diseases of the Liver and Bile Passages.

Aberrances of Gall-Stones.—Dr. Charles G. Stockton of Buffalo discussed the diagnosis of gall-stones and especially the anomalous symptoms they not infrequently presented. Gall-stones are now generally conceded to be due to infections. Their frequency is much greater than has been thought. At autopsy 25 per cent. of all women over 60 present gall-stones, although 90 per cent. of these cases have never presented any symptoms of the condition. The original formation of most gall-stones is due to an infectious process set up in the gall-bladder and acute attacks of gall-stone colic are usually brought into exacerbations of this infectious process. The question especially of the intermittency of the jaundice and the probable origin of this condition in a ball-valve action of the gall-stones in the biliary duct was touched upon.

Gall-Stone Fever.—Dr. Stockton used to be decidedly of the opinion that when in the midst of a severe paroxysm of pain referred mainly to the right hypochondriac region a rigor occurred, followed by high temperature and a tendency to collapse, these symptoms were sufficient to indicate with assurance the presence of a purulent process in the biliary region. Further experience has convinced him, however, that all of these symptoms may occur with only an ordinary attack of gall-stone colic without any suppuration. An important differential diagnosis is that which must be made from gastralgia. It is not easy to make as a rule. The chief symptoms of gall-stone colic on which special significance must be placed for differential diagnostic purposes are paroxysmal pains, tenderness in the region of the ninth rib on the right side, vomiting, ague-like attacks of fever, jaundice with collapse and calculi in the stools.

Courvoisier's Law.—Dr. Richard C. Cabot of Boston, Mass., said that about three years ago, while examining a case with evident biliary symptoms a colleague referred to Courvoisier's law. When he expressed his ignorance of it, the colleague referred him to Osler. There he found the law which was established by the Basel surgeon in 1890. As the law is important for the diagnosis of biliary conditions and as others may not be aware of its existence a statement of it seems not inoppor-

tune. Simply put, Courvoisier found as the result of a series of clinical observations that when there was obstruction of the bile-ducts by gall-stones, enlargement of the gall-bladder is extremely rare. If, however, the obstruction of the gall-duct is due to other pathological conditions then obstruction is almost the rule. He studied 187 cases of biliary conditions before announcing this conclusion. Of these 87 were of gall-stone origin and 70 of them presented atrophied gall-bladders. One hundred patients suffered for other reasons than gall-stones, and in these 92 had distended gall-bladders.

Confirmation of the Law.—In 1892 Mayo Robson, an English surgeon, evidently without knowing that his conclusions in the matter had been anticipated by the Swiss surgeon, announced that jaundice with distention of the gall-bladder indicated the presence of a malignant tumor obstructing the bile-duct. When there was no distention of the gall-bladder the obstructing agent was commonly gall-stones. Professor Naunyn of Strasburg considered Courvoisier's law well established.

American Teaching.—Curiously enough Courvoisier's law seems to have escaped the attention of most of the writers of text-books in America. Many of them state very simply on general principles that when there is an obstruction of the bile-duct distention of the gall-bladder takes place. Carrying the theory still further, some of the important text-books state that in cases of gall-stones distention of the gall-bladder may be looked for, and when it is found, the presence of a gall-stone may be diagnosed.

Confirmation of Law by Boston Cases.—Dr. Cabot searched the records of the Massachusetts General Hospital. Here he found ample confirmation of the law. In 86 cases of gall-stones in which the hospital record gave sufficient details to enable one to come to a decision as to the presence or absence of distention of the gall-bladder only four violated Courvoisier's rule. When gall-stones were present with the exception of a single case the gall-bladder was not found distended, but either spasmodically contracted or atrophied. In all malignant cases the gall-bladder was noted as distended with two exceptions, there being one doubtful case.

Infections of Gall-Bladder.—Dr. B. Farquhar Curtis of New York replaced Dr. Maurice Richardson, absent through illness, in an article on this subject. Dr. Curtis said that formerly bile was thought to be sterile. Bile checked yeast fermentation and was thought to be germicidal in its action. Normal bile has been found, however, not to be a germicide and the duodenum is as sterile without bile as with it. American observers have shown that two-thirds of the bile of patients operated upon contains microbes. These microbes find an entrance through the duct, or, at times, through the bladder. Infection through the bladder is sometimes considered a far-fetched notion, but it has been shown experimentally that the injection of typhoid bacilli into the blood of animals may lead to the presence of typhoid bacilli in the gall-bladder.

Favoring Conditions.—The presence of foreign bodies in the biliary passages or of any condition that obstructs the flow of bile favors the occurrence of infection. Where gall-stones are present infection almost invariably takes place. Dr. Curtis has seen a case recently in which jaundice lasted for many years. The patient died after an operation for appendicitis and a peculiar condition of flexure of the bile-duct was found. This flexure seemed to be due to a congenital prolongation of the duct and acted as a valve. Hence the intermittence of the jaundice of the case. The family history showed that a brother of the patient had suffered from intermittent jaundice for many years. Their mother had been affected the same way for most of her life.

Consequences of Gall-Stone.—Dr. Curtis considers that acute peritonitis from complications due to the presence of gall-stones is much more frequent than has been thought. The prognosis of these cases is much worse than has usually been considered. Many of the more or less sudden and unexplained peritonitides are due to complications and sequelæ of gall-stones. The differential diagnosis between an attack of gall-stones and appendicitis is not always easy to make. It is not an uncommon thing for the present-day surgeon to open an abscess on the right side of the abdomen midway between the appendix and the gall-bladder without knowing to which of these important and dangerous organs the pathological condition may be due. The mere evacuation of the pus does not always tell the story of its origin, and it is not until gall-stones are found in it that it can surely be concluded to be due to biliary conditions.

Technic of Gall-Stone Surgery.—Dr. S. J. Mixter of Boston said he considered the use of rubber gloves in gall-stone operations a mistake. The operation is done in the depths of the abdomen and the sense of touch is extremely important and is much blunted by the use of gloves. A careless surgeon may easily miss small stones in the duct and this will, of course, give rise to recurrences or may prevent the operation from having any good effects. Palpation of the duct can be best accomplished through the foramen of Winslow. The surgeon's exploration can be made most readily by turning his back to the patient, which thus gives him the anterior surface of his finger for palpation.

Evacuation of Fluid.—If there is considerable amount of fluid in the gall-bladder, it should be emptied by trocar. The question of drainage is always important and Dr. Mixter always employs it even though the gall-fluid

seems to be sterile or apparently normal. Dr. Mixter has done the so-called ideal operation of sewing up the gall-bladder, but does it no more, because of fatalities that he has seen, though fortunately not in his own experience. The ideal operation is by no means ideal. For drainage Dr. Mixter inserts a flaring glass tube which is tied into the gall-bladder. This is simpler, neater and causes less pain and dragging than the sewing of the gall-bladder to the abdominal walls.

Oozing after Operation.—For the ghastly fatal oozing that sometimes occurs after operation, Dr. Mixter uses fine gelatin carefully sterilized, to which a little adrenalin is added for the purpose of producing hemostasis. Fortunately these cases are extremely rare for they constitute one of the series opprobria of gall-stone surgery.

Cholecystectomy.—Dr. Charles L. Gibson of New York said that drainage in gall-stone cases is by no means a radical operation and the possibilities of a recurrence are not relieved. Kehr, the German authority to whom we owe so much, found that after drainage in nearly seventy per cent. of the cases some symptoms of the biliary condition returned. After extirpation of the gall-bladder, however, he found recurrence of symptoms in only one of the cases. Removal of the gall-bladder is certainly in the line of preventive medicine, the great desideratum of the present day. Cancer of the gall-bladder develops in about 14 per cent. of the cases of gall-stone. The removal of the gall-bladder would prevent the development of cancer and so is an important prophylactic. The operation of cholecystectomy is comparatively simple and the value of the gall-bladder as a reservoir is doubtful; there is no need of keeping it, as is sometimes urged, as a guide in future operations.

SECOND DAY—WEDNESDAY, OCTOBER 16TH.

Medical Aspects of Appendicitis.—Dr. W. E. Ford of Utica said that some of the difference between the statistics of appendicitis in this country and in Europe was undoubtedly due to the fact that the European common people ate different food and were not so much in the habit of bolting their food. Appendicitis is especially common in America among young athletes. This is probably not due to any action of the psoas muscle notwithstanding the claims made in this direction. Traumatism is not a frequent direct cause of appendicitis, though Dr. Ford recalled two cases in which it seems to be the determining cause. In these cases there would seem to have been some pathological conditions preceding the injury. It is probable that a normal, freely moving appendix could not be injured directly. As the result of clinical experience it would seem better to give a light hypodermic of morphine than to give drugs by the mouth. Dr. Ford does not think that the awful warning usually fulminated against the giving of opiates, that it masks the symptoms, is quite deserved. When patients have severe pain it may be relieved by a morphine injection, though of course this should not be repeated. The most prominent medical indication is for catharsis. An ice coil should be placed on the abdomen for 24 hours. After this palpation will show the presence of appendicitis by offensive fulness and the spasm of the rectus muscle. If the temperature and pulse continue normal in 24 hours usually no operation will be needed. If after 48 hours there is rise in pulse and temperature the immediate operation is indicated. If palpation shows extreme tenderness then the indication is for immediate operation. If there is a sudden cessation of pain, perforation or gangrene has probably taken place and operation must not be delayed.

Significance of Tumor.—The presence of a tumor does not necessarily indicate pus formation. Catarrhal appendicitis may well give rise to swelling. As soon as tumors form operation is not necessarily indicated. There are many who think that operation at the earliest moment possible is the idea. Dr. Ford has not seen the best results in very early operations. The only cases in which he has to reoperate because of intestinal obstruction are those in which operation had been done very early with consequent diffusion of the inflammatory exudate and the formation of more extensive adhesions than are usually the rule.

Interval Operations.—After a single attack of catarrhal appendicitis should the patient be operated upon? Sometimes such attacks do not recur. If the attacks are repeated and the health becomes impaired because of the consequent disturbance of digestion then operation should certainly be counseled. If there is more than one recurrence then operation is at least advisable. Dr. Ford does not believe in the continued use of cathartics. The patient should not be kept absolutely on a milk diet, but should be given rice and soft pulpy foods.

No Medical Aspects.—Dr. Herman Mynter of Buffalo said that he did not know that there were any medical aspects to true appendicitis. Professor Ewald of Berlin, one of the most distinguished authorities in the medical aspect of stomach and intestinal diseases, has asserted over and over again that appendicitis is not a medical but a surgical disease. The appendix is an organ of low vitality with large absorbing surface in which micro-organisms from the intestines are liable to become imprisoned and which because of its single arterial blood supply is liable to become gangrenous from the stoppage of that blood supply. The conditions which develop in it then are those of serious inflammation liable to become purulent. For such conditions medicine can do nothing and it is self deceit to pretend that it can.

Catarrhal Appendicitis a Bad Term.—Dr. Robert Morris of New York said that the word

catarrhal as applied to appendicitis has been a most fatal term. Catarrhal appendicitis is probably without symptoms. Whenever appendicitis presents itself for treatment it has gone beyond the catarrhal stage. The use of the word, however, has encouraged the idea that there may be an inflammatory condition in the appendix giving symptoms and capable of complete restoration to health. Dr. Morris is of the opinion that trauma has something to do with the development of appendicitis and he thinks that the psoas is able to twist many appendices.

Heredity and Etiology of Insanity.—Dr. Carlos F. MacDonald of New York read a paper in which he brought out the growing tendency of psychiatrists to consider heredity as the most important factor in the etiology of insanity. There are three forms of mental disturbance in which the influence of heredity is especially noteworthy. These are idiocy, imbecility and degeneracy. The presence of hereditary predisposition causes emotional strain and overwork to affect certain people much more than others. The usually cited causes of insanity, such as the loss of money, loss of friends, failure in business, failure in chosen careers, occur to most people and yet most people are comparatively sane. An insane strain in a family stock is the basis on which mental disturbance develops, though we do not know the modus operandi of hereditary influence. This is especially true in the so-called functional insanity.

Pathology of Migraine.—Dr. William H. Thomson said that migraine is not a degenerative neurosis that occurs like certain forms of neuralgia late in life when people are breaking down, but occurs mainly early in life and may disappear after fifty. Migraine is a class disease and certain classes of people do not suffer from it. Sailors, farmers and workmen engaged in outdoor occupations, or people who are accustomed to considerable exercise in the open air are never affected by it. Clergymen, students, business men, workers in sedentary indoor occupations, housewives, shopgirls and so forth, are the special subjects of it. It is probable that in this distinction of the people who are liable and those who are immune to it we have the physical basis of the disease. The difference in the habits of the two classes of people are especially those which affect the portal circulation. This is the weakest part of the circulation of the body. It has the least share of the force of the heart and the blood must find its own way through the second set of capillaries in the liver substances the walls of which are not elastic. The portal circulation depends then on the adjuvants to the circulation. Of these the most important are the respiratory movements. The up and down movement of the diaphragm and the corresponding movements of the abdominal muscles in deep breathing have an easily recognizable influence upon the flow of blood in the portal veins. How important these muscular movements may be as regards pathological processes we can gather very well out of the fact that one out of every four women suffer from gall-stones after the age of fifty.

The Liver as a Manufacturer of Antitoxins.—One of the main functions of the liver is undoubtedly to neutralize certain poisonous substances which are entering the circulation through the gastrointestinal tract. These substances have a special tendency to act upon the liver. It may easily be understood then how the lowering of hepatic function can lead to nervous painful conditions. Heredity is another important factor in the causation of migraine and there is nothing that is more hereditary than digestive disturbances.

Treatment of Attacks.—All severe cases of migraine are associated with chronic dyspepsia, but especially chronic constipation. For this a five-grain blue mass pill given once a week and followed by a saline the next morning is part of the routine treatment. Mercury undoubtedly provides our best intestinal antiseptic. Every morning one or two drams of sodium sulphate and ten grains of sodium salicylate, should be taken in a glass of hot water. Some prefer to use sodium phosphate, but the sodium sulphate is more satisfactory. Besides this there should be daily ten grain doses of phenol or naphthol bismuth, or of the sulpho-carbolate of bismuth. For the actual attacks themselves, dram doses of pure extract of ergot are the best remedy to cut them short. Patients should remain quiet after the administration of the drug and the dose may be repeated after an hour if necessary. For some patients 15 grains of antipyrin is an excellent remedy. This should never be given except in association with a dram dose of aromatic spirits of ammonia. It is important to regulate the diet of migraine patients and yet not very much can be said as to a definite set of rules. As a rule pale and anemic individuals should be encouraged to eat more than before. Red meats, however, should be avoided to a large extent and especially should not be taken at night. One dietetic rule can always be given with more or less assurance, that is if anything is tasted again after being swallowed or in the midst of gaseous eructations, this is to be a sign that the stomach does not want that stuff any more. Generally migraine occurs during the years when the nervous system is overtaxed by worry. If we can make the attacks of migraine less frequent we are not only conferring a present benefit on the patient, but we must not forget that it is in these patients particularly that melancholia is apt to develop. It is well known now that intestinal antisepsis is important for the prophylaxis of melancholia and so we may be doing our patients a double benefit.

Other Drugs.—Dr. Jacobi in discussion said that the migraine may occur in very early years, even at three or four or five years of age. Usually the patients are pale and underweight and sleep better without a pillow. The vomiting that so often occurs in migraine is another sign that the patients are suffering from cerebral anemia.

Counteract this and much is done to benefit them. Dr. Jacobi has found aconite the best drug, though the American preparation gives no benefit and only the French aconitine of Duquesnal succeeds. Cannabis indica, the English preparation, is another effective remedy. This should be given in doses of the extract, one-half to three-fourths of a grain. Dr. Jacobi also employs strychnine and arsenic and believes that combinations of drugs are very effective.

Perinephritic Hemorrhage: Non-Traumatic.—Dr. Arthur Booth of Elmira presented the report of a case in which the patient died from hemorrhage in the neighborhood of the kidney without any trauma to occasion it. The man had been a somewhat heavy drinker since his college days and the arterial changes consequent upon this would seem to have been the reason for the hemorrhage. Seventeen days after the acute pain that accompanied the first hemorrhage, he was prepared for operation, but died suddenly before the operation was begun. The clot around the kidney was laminated and partly organized and the successive hemorrhages seemed to occur when the clot contracted. Spontaneous kidney hemorrhage is extremely rare in adults, but not uncommon in children.

Nephropexy.—Dr. George Edebohls of New York said that in cases of floating right kidney he often finds chronic appendicitis present and removes the appendix at the time of the kidney operation. At the same time owing to the frequency of biliary disease in women, he palpates the biliary passages. He no longer uses sutures through the kidney substance itself in order to anchor the kidney, because the presence of the suture may lead to urinary fistula. He has operated upon 261 kidneys in 193 patients and has lost only two patients.

Uterine Bisection.—Dr. W. G. MacDonald of Albany demonstrated a series of specimens in which uteri bound down by adhesions were easily removed by bisection. In certain cases the use of electricity and the curette in the treatment of uterine conditions leads to the formation of firm adhesions. Fibroid tumors have a like effect. In these cases the bisection of the uterus, either in a vertical or horizontal plane, often renders extremely difficult operations simple.

Priority in Bisection.—Dr. Howard Kelly of Baltimore said that undoubtedly Dr. MacDonald of Albany had been the first to do bisection of the uterus in the cure of severe conditions. Dr. J. Faure had also seen the usefulness of this operation. Dr. Kelly thinks that this bit of technic has done more for the improvement of gynecology than any method introduced in the last 15 years. It makes difficult cases that were frequently lost before comparatively simple.

Kidney Incision for Stone.—Dr. Howard Kelly demonstrated by a series of preparations and specimens how the incision for stone should be made in diseased kidneys. His assistant Mr. Bradel rediscovered the fact pointed out by Hyrtl some years ago, but lost sight of, that the kidney circulation was in two distinct parts. The anterior and posterior parts of the kidney are supplied by distinct sets of arteries. If the incision can be made between the circulations very little bleeding occurs. There is a white line on the posterior surface of the kidney pointed out by Dr. Bradel, which Dr. Kelly proposes to call the Bradel line, that is an index as to where the incision should be made. The incision must be made parallel to the surface of the kidney, and not transversely into the pelvis.

Are the Tonsils Normal?—Dr. F. H. Bosworth, of New York, said that the question of the normality of the tonsils is an open one. In many tonsils there is a mass of tissue containing a blind duct and some lacunar follicles and some lymphoid tissue. Other tonsils contain only lymphoid bodies and there is question whether these latter tonsils are not the really normal structures. As a matter of fact there is in many throats a ring of tonsillar tissue, consisting of four organs, Luschka's tonsil, the lingual tonsil and two faucial tonsils. The deep lacunæ or crypts which occur in some tonsils are certainly adventitious and pathological, and form traps for infectious micro-organisms. Twenty years ago, Dr. Bosworth said before the Laryngological Congress in London that there were perhaps no tonsils in health. He is ready to repeat this now after years of further experience.

Removal of Tonsils.—The notion that the tonsils are usually pathological, would be good for the laity to have for then they would be ready to accept the idea of having them removed. Whenever the tonsils give symptoms in early life they should be removed. Dr. Bosworth prefers the cold snare to the tonsillotome. Partial removal is the worst thing that could happen because it lays the lymphoid tissue open to easier infection. With the cold snare all danger of hemorrhage is removed. In children this is not a serious consideration, but at 12 or 14 years of age hemorrhage may prove alarming. After 15 it is positively dangerous. Dr. Bosworth uses chloroform anesthesia to relaxation not to complete narcosis and in many hundreds of cases has never had the slightest symptom.

Prognosis of Croupous Pneumonia.—Dr. J. C. Wilson of Philadelphia said that 100 years ago Laennec of Paris insisted on the large personal element there is in the prognosis of pneumonia. Adding to the difference of season and of place, circumstances and age made great difference in the mortality from the disease. These are abiding truths even down to our own day. The farther advanced the age the worse is the prognosis, but yet comparatively young people die not infrequently, especially in hospitals. During the last five years, the statistics of pneumonia at the German Hospital in Philadelphia, have not been satisfactory. This has led to a careful review of their methods of treatment.

Specifics for Pneumonia.—Dr. Wilson said that many drugs were recommended as specifics

in pneumonia, but none of them really act as such. Some years ago Petruschky attracted attention by announcing that in 1,100 cases of pneumonia, treated by large doses of digitalis, he had had but a little over two per cent. of deaths. His cases, however, occurred among young soldiers with whom the prognosis was naturally good. More recently Aufrecht has found that quinine seems to reduce the mortality from pneumonia. Where the mortality has been from 10 to 25 per cent., it was reduced to less than 8 per cent., and this immediately after a year in which the mortality had been 24 per cent. It is doubtful, however, if there is any specific for pneumonia and the apparent improvement in statistics is really due to the different character of the disease in different years and in different classes of patients. At the German Hospital in Philadelphia they employed antipneumococcus serum in some 40 cases but their mortality was 28 per cent. Hydrotherapy also failed to benefit patients. Dr. Wilson does not believe in the use of veratrum viride, or aconite, to abort pneumonia. There are those who claim good results, but it must be remembered that a century ago venesection seemed to most doctors to produce this effect.

Present Treatment.—At the German Hospital they now employ expectant treatment. Patients are given milk and light gruels or broths with junket, if they want it. Patients are allowed water whenever they wish it, but not more than 2 ounces at a time. They are sponged night and morning, the temperature of the water being according to patient's choice. If the temperature reaches 104° F. a cold sponge is given. Flat icebags are placed on the chest to relieve pain and thus patients are often made very comfortable. About 4 to 6 ounces of alcohol are given in the 24 hours and even more to patients who are accustomed to it. Calomel is given when the case first comes if there has not been free purgation. As a routine treatment, Dover's powder, 2 to 3 grains, every three hours, is given just to the point of drowsiness. Expectorants are rarely given. Occasionally aromatic spirits of ammonia or ammonium carbonate are employed. Nitroglycerine is given for a laboring right ventricle. For dyspnea, oxygen freely mixed with air is employed. For nervous symptoms the Dover's powder is increased and an icebag placed on the head. In severe cases cold is applied to the head and neck. No poultices or jackets are worn. Meat is given as soon as the patient desires it in convalescence, but he is not allowed to get out of bed until satisfactory improvement has taken place.

In discussion Dr. S. B. Ward of Albany said that icebags should not be used if they make the patient uncomfortable. Opiates do good by reassuring the patient. In his own experience Dr. Ward has found creosote carbonate of service, although it is not given if it produces indigestion. There is more danger of overfeeding than of underfeeding in pneumonia. Heart failure is the great cause of death. Hence digitalis should be employed early in the case and it is undoubtedly for this reason that it has obtained its recent reputation.

Fresh Air in Pneumonia.—Dr. Hunter of Toronto said that at the Western Hospital in that city some years ago large tents were erected in the hospital yards for the open air treatment of pulmonary cases. In these, pneumonia cases particularly, do very well. All acute pulmonary diseases are relieved by this open air treatment. If Dr. Hunter were to fall sick with pneumonia he would prefer to be treated under the trees in the park, with a piece of canvas to cover him at night, than in the best appointed hospital in the world.

In closing the discussion Dr. J. C. Wilson said that fresh air is undoubtedly a great desideratum in pneumonia. Military men affected with the disease and treated in tents do very well. Pneumonia is not an uncommon affection in lumber camps. During his autumn vacations Dr. Wilson has had an opportunity to convince himself that pneumonia is not as fatal in the camps as it is in hospital experience.

Mastoiditis.—Dr. T. H. Halstead of Syracuse said that it would be much better if the middle ear were considered as an accessory sinus of the naso-pharynx and the condition of the throat constantly kept in mind whenever there seemed danger of middle ear disease. The formation of pus in the middle ear is even more common than has been thought. In 30 cases of meningitis in children in Munich, although there had been no sign of middle ear disease, the ears were carefully examined at autopsy and in every case were found to contain pus. The pathognomonic symptom of mastoiditis usually given namely the red and tender mastoid process, is really a late symptom in the affection. The disease exists long before this. As a rule, free incision of the drum with free purgation will benefit the acute stage of mastoid disease if employed in time. Morphine should never be given because it masks the symptoms. Ice should be employed during the first forty hours and if it does not afford relief by this time its continued use will only increase the death of bone. When the ear discharges freely, boric acid insufflations should not be used as they retain the secretion.

Antecedents of Mammary Cancer.—Dr. B. Farquhar Curtis of New York said that there are two forms of mammary affections that are of interest either because they arouse in the patient the suspicion of cancer or may precede it. The adenomatous overgrowth in the breast is especially liable to cause discomfort to the patient. Not that there is actual pain, but the patients fear any hardness in the breast. Adenomatous swelling of the breast may cause involvement of the glands. These adenomata may become malignant. Often they are quite hard. As a practical rule Dr. Curtis insists that any of these

tumors that become indurated should be removed. If they occupy less than one-fourth of the breast he removes simply the tumor. Where more than one-fourth would have to be removed in order to cut well wide of the tumor the whole gland should be sacrificed and the axillary glands removed, because these are often found to give pain, and show cancer nodules at times when the breast tumor does not seem to contain them. Adenomata of the breast sometimes seem to disappear of themselves. This form of resolution, however, can not be depended on. Even when the tumor is small, the operator should obtain the patient's consent for the removal of the whole breast, if during the operation there should seem to be any good reason for it. To depend on retraction of the nipple, enlargement of the glands and adhesion of the skin is to invite fatal diffusion of the cancer element before removal. When small tumors are removed they should be submitted to microscopical examination in order to determine if they contain any cancer elements.

Ligation of the Aorta.—Dr. Robert T. Morris of New York said that the aorta has now been ligated some fourteen times. Thus far patients have succumbed, though not immediately. Surely the time is now ripe for successful ligation of the aorta. Of the ten cases done before the days of antisepsis all the patients perished within a short time after the operation. Of the four performed since, Keen's patient lived 48 days, one of the others 29 days. Morris' patient lived for 3 days and then seemed to be doing very well except for a gangrenous condition of the intestines which caused death. Dr. Morris' patient was a young woman of twenty-four years, who developed aneurism of the abdominal aorta. Owing to the pain the condition was considered at one hospital to be a pleuro-pneumonia, and at another an acute gastritis. As the aneurism grew larger the diagnosis became easy because of the immense expansile heaving motions of the abdomen. The aorta was ligated two inches below the aneurism, by a temporary ligature. After twenty hours clotting took place in the aneurism, twenty-seven hours after its fixation the ligature on the aorta was removed. The patient at once began to feel better and asked for food. The pulsation in the femoral arteries which had been completely stopped began again and continued normally. Unfortunately the patient died on the third day from gangrene of the intestines.

MEDICAL PROGRESS.

Removal of Tonsils.—There is a great difference of opinion in regard to the indications which demand amygdalotomy for the results, especially in the adult, are frequently not all satisfactory R. LEVY (*N. Y. Med. Jour.*, Oct. 12, 1901) believes that where there is simple hypertrophy or a diseased condition of the follicles without hypertrophy nothing short of complete removal will assure complete cure, and that this should always be done. The best method in adults is by the glavano-caustic snare, for, by this means, secondary hemorrhage is very unlikely. Complete dissection is sometimes necessary and this may be done by the galvanocaustic electrodes. Simple amygdalotomy is usually sufficient and has many advantages in children.

Respiratory Failure in the Newly-Born.—Two cases of this kind reported by IRVING M. SNOW (*Archives of Pediatrics*, Oct., 1901) showed intense exaggeration of the anal and pharyngeal reflexes, frequent convulsions which seemed closely associated with the respiratory pause, and frequent stoppage of respiration with intense cyanosis and no spontaneous effort at natural breathing. Life was sustained in one case by oxygen and artificial respiration, and if the latter were suspended, in from five to fifteen minutes the breathing became superficial, and finally stopped. Whisky and chloral had been given hypodermically, as the spasms were frequent. The condition of exhaustion and malnutrition being extreme, a soft catheter was introduced into the stomach and two drams of breast milk injected with good effect. The acute symptoms when life was sustained by artificial respiration and oxygen lasted 19 hours, and the child was all right again twenty-six hours after the onset. The other child died after the apnea and opisthotonus had lasted fourteen and a half hours. The writer believes that the attacks were due to pressure on the medulla, the rapid clearing up in one indicating congestion, or slight edema. The success in one case shows the value of persistence in treatment for many hours.

Tincture of Iodine in Acute Amygdalitis.—The intense pain and swelling which accompanies acute amygdalitis frequently baffles the skill of the physician. S. FLOERSHEIM (*N. Y. Med. Jour.*, Oct. 5, 1901) has found after a wide experience that astonishing results may frequently be had by the direct application of the tincture of iodine. A camels'-hair brush is saturated with iodine and rapidly brushed over the inflamed area. The burning is intense, but if it should persist after two minutes a gargle of warm water will give relief. The pain is usually temporary and a second application should then be made in about three or four minutes after the first application. The results are usually marvelous. When the drug has been applied early an apparently intense amygdalitis may be seemingly aborted. In suppurating cases, the pain and swelling are much relieved by this mode of treatment and the rupture of the abscess is apparently hastened.

Insomnia in Children.—

℞ Urethan ..... 1.5 (gr. xxiv)
Glycerin ..... 4.0 (℥i)
Aq. menth. pip. ad .. 30.0 (℥i)

M. Sig: One teaspoonful three times during the day (for a child 5 to 10 years old).—FREYBERGER.

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ORIGINAL ARTICLES.

GIANT SACROCOCCYGEAL TUMORS. AN ACCOUNT OF ONE WHICH PURSUED AN ATROPHIC COURSE.[1]

BY CHARLES A. POWERS, M.D.,

OF DENVER, COLO.;

PROFESSOR OF SURGERY IN THE UNIVERSITY OF DENVER.

IN October, 1897, there came under my observation, through the courtesy of Dr. P. V. Carlin, a male child of three months who presented an unusual growth in the coccygeal region. The tumor was congenital and at birth was said to have been practically of the proportional size and shape which it was when I saw it and to have presented the same general characteristics. The child was mature at birth, at which time the parents were told that it would probably die. The only attention which the mass received was ordinary cleanliness. The child thrived and at three months of age was quite as strong and as well nourished as babies of that age usually are; it had not been ill.

Examination of the child when first seen revealed a very large growth occupying the sacrococcygeal region, extending laterally to the buttocks and forward in front of the anus. The growth encroached upon the left buttock rather more than upon the right, reaching well to the gluteal fold on the left side. It was irregularly

Fig. 1. Congenital sacrococcygeal tumor; child three months old.

ball-shaped; the entire mass was as large as the head of a child six years old. The tumor measured seventeen inches in circumference. The general consistency was soft. Below and in front it was markedly cystic and fluctuating, while above and laterally it was firm and in places nodular. The firmer portion seemed attached to deep structures and these more solid parts were thrown

Fig. 2. The same.

into large irregular folds with deep creases between them. The skin over the tumor was normal above and at the sides, but very thin and of a bluish-red over the cystic parts. Large veins crossed the latter portions. The skin was freely movable over the fluid portion of the tumor, but tightly attached in the crevices above mentioned. The cystic portion swayed with the movements of the child. Palpation of this gave the impression of one or more large cysts and many small ones with here and there firm portions of tissue. Deep palpation failed to reveal a gap in the bony structures. Digital examination of the rectum showed nothing abnormal. The bowels had been regular and the movements natural; there had been no abnormality of micturition. When the child cried the upper lateral parts of the tumor were moved by the gluteal muscles, but the tension of the mass itself was not changed. There was neither paralysis nor anesthesia of the lower extremities. The size, shape and location of the tumor are very well shown in Fig. 1 and Fig. 2.

Removal of the mass was not advised; the tumor was too large and the baby too young. Aspiration of the fluid contents was suggested, but the parents did not take kindly to the thought and it was not urged. The mother was asked to keep it very clean, to wash it with dilute alcohol and dust it with a simple dusting powder, protecting it well with soft clothing. She gave it the best of care.

Three months later the tumor was in about the same condition; there had been no appreciable

[1] Read before the American Surgical Association, 1901.

change. Six months after this, or when the child was about one year old, the fluid portions of the tumor seemed to be less prominent; the tumor itself had rather less of a ball shape, and was beginning to get flat.

Fig. 3. The same at three and a half years of age.

The child was seen at intervals of two or three months. The tumor underwent progressive contraction; the skin over it never broke; it was never ulcerated. The boy had the usual diseases of childhood, measles, whooping-cough, diphtheria, etc., but his physician said that he came through them all without accident. He waxed strong and hearty. "He is the strongest of my six children," said the mother.

Fig. 4. The same.

Figs. 3, 4, 5 and 6 show the condition in March, 1901, the child then being three years and nine months of age. At this time the tumor was well flattened out, circular in outline, extending to the gluteal fold on the left side, but not quite so far as this on the right side; anteriorly it went to the anal margin in the middle line and in front of the anus on the right side. Above it was limited by the middle of the sacrum. Its diameter was five inches; in size it was somewhat larger than a man's fist, well flattened out. The skin over it seemed rather thick; it was movable in places. Here and there it was thrown into deep folds and at these folds the skin was tightly adherent. At

Fig. 5. The same.

the right extremity a hard nodule an inch and a quarter long and one-half inch wide was plainly felt. This nodule or lump could be bent slightly on itself, it moved freely on the deep parts, but the skin over it was attached. The entire mass was movable. As the child lay on its mother's lap and kicked its legs the upper lateral parts of the tumor moved, the skin over it being thrown into deeper folds. The mass was nowhere tender or inflamed; it seemed to be solid throughout. Rectal examination was negative.

This boy is well developed, strong and healthy.

Fig. 6. The same. Figs. 3, 4, 5 and 6 are to be compared with Figs. 1 and 2, in order to show the spontaneous contracture which the tumor has undergone.

He plays about like other youngsters of his age and has no symptoms whatever referable to the lower extremities. He runs about, lies on his back and sits like other children. He does not favor this portion of his body in any way; in a word, except for its mere presence this tumor gives no general or local symptoms. The boy never seems conscious of it.

Some variety of congenital malformation of the sacrococcygeal region is very common. That

most often seen is the simple dimple or groove, the so-called fovea coccygea. Beyond this we have the true epidermoid fistula or pilo-nidal sinus, and a step further brings the true dermoid. In this class also may be placed sacculation of the cord connected with vertebral fissures, spina bifida occulta. All of the foregoing are of single germinal formation. The more complex growths are of double germinal substratum—complete or incomplete double formations, and parasitic cystic mixed tumors (teratomata-embryoid tumors). I believe that the case here related belongs to the last class, and, while it lacks histological confirmation, one may reason by analogy from similar growths which have been pathologically examined.

These sacrococcygeal teratomata present the greatest diversities of tissue. They form a class of tumors by themselves. They are generally mixed, and in addition to the structure of dermoids they may and often do present cysts lined with ciliated, flat or columnar epithelium, muscle fiber, nerve tissue, intestinal remnants, bone and cartilage. Rindfleisch names such a growth a "histological potpourri." The region itself presents as much diversity of structure as does that of the face.

Stolper[1] has recently given the subject careful attention. He approaches it almost entirely from the genetic or histological standpoint. He found that many cases of spina bifida are multilocular and can be told from teratoid tumors only by microscopical study; combination of both forms may occur. Stolper affirms that it has not yet been proven that the remnant of the medullary canal, a persistent coccygeal vertebra, the neuroenteric duct, or Luschka's gland may be the starting-point of such a growth though the possibility of this is not denied. One thing is certain and that is that teratoid tumors of the sacrococcygeal region unanimously show components from all three of the germinal layers. Variations in the mode of growth are responsible for the great disparity in the microscopic appearances. The manifold coarse and fine structure, the indications of so many different organs, the cyst formation, the differences in the epithelium in one and the same cyst are readily explained by the assumption of double germinal substrata.

Fig. 7 is from a photograph of a remarkable case which was under Stolper's observation,[2] a giant sacrococcygeal tumor in a child five months of age.

"The tumor is one-half as large as the child itself. It is irregularly ball-shaped, there are muscular movements in it when the child cries. The skin is movable and normal. Extirpation under chloroform. But little loss of blood. Broad pedicle springing from dorsal surface of sacrum and coccyx. Coccyx itself not involved in the tumor. Duration of operation one hour. Death a few hours later. No autopsy, therefore no data in addition to those afforded by the operation.

"*Pathological Report.*—After contents (1,100 c.cm.) of a large cyst had flowed out the tumor weighed three kilos. The lower part of it was cystic. The upper, solid portion, consisted in part of fat and muscle fiber, in part of nerve tissue. There was much intestinal mucous membrane in the cyst walls.

"We have here a giant growth consisting in part of large and small cysts, in part of solid tissue, the latter containing in the greatest irregularity of distribution smooth and striped muscle fiber, fatty tissue, connective tissue, glandular tissue having the structure of the salivary glands, cysts with flat and columnar epithelium, cartilage, nerve tissue, etc. The nerve tissue has but few ganglion cells but is rich in masses of gliomatous tissue."

Stolper's observations seem to be confirmed by a recent case reported by Hagen-Torn.[3] This concerns a very interesting case of congenital sacral tumor which, in addition to many forms of

Fig. 7.

intestinal tissue, contained sarcomatous and myxo-sarcomatous degeneration. He considers it a malignant degeneration of a sarcomatous nature which had its origin in a small, double germinal malformation.

Phocas of Lille[4] reports two cases, one a five-year-old child presenting a tumor 12 centimeters in breadth by 11 centimeters in thickness, and a second child of twenty-two months with a tumor 43 centimeters in circumference, the pedicle of which measured 9 centimeters in breadth and 25 centimeters in circumference. Both tumors were markedly cystic and both showed the most diverse tissue constituents. Extirpation was successful in both cases. Phocas advises delay in these cases until the children reach such age as to enable them to withstand operation. When the tumors are very large it may be better to extirpate them in multiple sittings.

Broca and Cazin[5] made careful examination of two specimens, one from a child of six weeks, the other from a child of four years. Both operations were successful and both specimens showed sections of intestine having about the diameter of a goose-quill, laid down in the midst of large

masses of small cysts. The microscopical evidences of the intestine were characteristic. The cysts were lined with ciliated epithelium. The authors believe the tumors to have sprung from the neuro-enteric canal.

Calbe[6] discusses at length six teratogenetic tumors and arrives at the conclusion that twin monstrosities and congenital sacrococcygeal tumors belong practically in the same class, and that microscopical investigation will show all possible stages between the simplest and the most complicated growths.

Nasse[7] reports on five congenital coccygeal tumors each of which had a ventral seat. Some of these operations were exceedingly difficult; the cysts reached so high in the pelvis that they could not be extirpated *in toto*. The most diverse tissues were found in these tumors—connective tissue, bone, cartilage, flat muscle fiber, conglomerate glands and mucous cysts which showed in

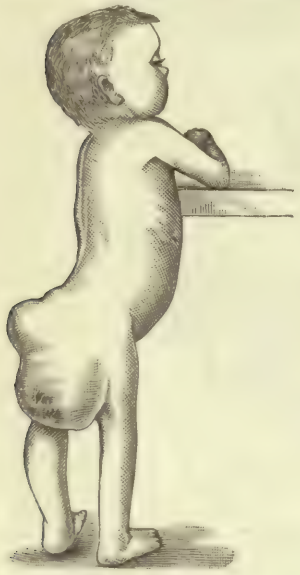

FIG. 8.

FIG. 9.

part ciliated epithelium and in places a transition from squamous to cylindrical epithelium. One of these tumors was a simple dermoid; the author assumes that the other four arose from the post-anal remains of the intestinal tract. Nasse says that while teratomata of dorsal growth often contain nerve tissue those ventrally situated are generally cystic.

Perman of Stockholm[8] reports an operation on a five-months-old child who had a cystic sacrococcygeal teratoma the size of a baby's head. The mass was limited below by the gluteal fold; on the right side it reached to the trochanter major and it stretched some two inches across the middle line in the sacral region. The skin over it was very thin and movable. On operation several large cysts and many small ones were found, together with masses of gliomatous tissue. Large nerve fibers could not be demonstrated. Here and there cubical and cylindrical epithelium. The coccyx was pressed somewhat to the left side, but no gap in the spinal column could be discovered. The child recovered. From the presence of the large amount of gliomatous tissue Perman assumes that the structure came from the same embryonal tissue as the brain and spinal cord.

Ritschl[9] removed a tumor the size of child's head from the sacral region. The mass was found to be made up of many different tissues, in part cystic and in part solid "characteristic fetal rudiments."

Other and similar observations might be cited, but I believe that the foregoing tend to strengthen the assumption that the case which I report may properly be placed in the class of teratomata and embryoid growths. Its appearance at birth and a few months thereafter, its partly cystic and partly solid nature, its size and seat all place it in line with the cases histologically examined by Stolper and others. However instructive it might be to add the pathological report, I am quite content to have had the tumor undergo spontaneous contraction. The age, size and strength of the child, the absence of local pain, tenderness and ulceration, the progressive shrinkage of the tumor itself, all lead me to hope that Nature may have cured the condition. It is possible that further growth may take place, that malignant degeneration may ensue as time goes by. I am unable to obtain record of any case in which a similar tumor has pursued the course of this.

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FOUR CASES OF TUMORS.[1]

BY JAMES E. NEWCOMB, M.D.,
OF NEW YORK;
INSTRUCTOR IN LARYNGOLOGY IN THE CORNELL UNIVERSITY MEDICAL COLLEGE.

DURING the past year four interesting cases of tumors have come under the writer's observation and are deemed by him worthy of record.

Case I.—Osteosarcoma of Inferior Turbinate: A. B., colored, male, aged forty-one years, came to the writer's clinic in the Out-Patient Department of Roosevelt Hospital, September 25, 1900. He stated that for some four months he had had an obstruction of the right naris, constant and increasing. There had been neither pain nor hemorrhage. At times there had been a moderate post-nasal discharge. The patient was stout and well built, but somewhat asthmatic and emphysematous.

Examination of the right naris revealed an apparently bony adhesion between the inferior turbinate and the septum, beginning about three-quarters of an inch from the vestibule and running backward for half an inch. The obstruc-

[1] Read before the American Laryngological Association, New Haven, Conn.

tion was removed by trephining and there was no unusual hemorrhage. Healing promptly occurred and for some time the patient could breathe easily through that side. In a few weeks, however, he returned with the same symptoms as originally noted and examination showed a reformation of the bony mass which was larger than

Fig. 1. Osteosarcoma of Inferior Turbinate.

before. With the trephine a considerable core of tissue was removed and submitted to Dr. Jonathan Wright, of whose courtesy in this and the following cases I would here make grateful acknowledgment. His report was as follows: "The subepithelial tissue of the mucosa is entirely made up of spindle-celled fibrous connective tissue with newly-formed capillaries running through it. The tendency to crescent shapes in the arrangement of the cells presents the familiar picture of a spindle-celled fibrosarcoma. In places there is a proliferation of cells which apparently spring from the endothelium. In the deeper layers (Fig. 1) bony tissue of apparently new formation may be seen with a lining of osteoblasts (Fig. 2) along the edges of the scattered areas. The sarcoma formation fills the interstices of the bony tissue and is quite as characteristic there as elsewhere. In places a double row of osteoblasts may be seen which have apparently extruded the lime salts between the rows, and this has not yet assumed the formation of bone and it appears more or less amorphous. There can, therefore, be no doubt in this case that we have to do with a true osteosarcoma and not with a sarcoma secondarily involving subjacent bone."

In view of the nature of the growth the patient was urged to enter the hospital with reference to a more radical intervention than was possible in the Out-Patient Department. This he agreed to do, but failed to return.

Case II.—True Papilloma of the Nasal Septum: J. T., merchant, American, aged fifty-five years, was seen in consultation with Dr. F. M. Crandall for severe epistaxis. The nasal septum was strongly bulged to the right and presented on its convexity a large erosion from which the blood came. Pure silver nitrate was applied and the bleeding was checked. During the systematic examination of the patient I discovered a small cauliflower-like mass on the left side of the septum at its top just at the junction with the ala. It had given no symptoms and the patient was unaware of its existence. It was removed without incident and proved to be a true papilloma (Fig. 3).

Dr. Wright's report was as follows: "The growth is chiefly a proliferation of epithelial cells which partake somewhat of the characters of both the pavement and columnar varieties. It is supported both on the surface and dipping down into the tissue by a delicate network of connective-tissue digitations with a central blood-vessel, the whole presenting a typical picture of the so-called papilloma or fibroma papillare."

The question of nasal papilloma has been thoroughly discussed at various meetings of this Association and the ground need not be re-traversed here. The case is reported on account of the rarity of true nasal papilloma. Arrowsmith of Brooklyn reported in 1897[1] a case of this nature and stated that he had been able to find in literature up to that time but 29 instances of true papilloma of the nose and that in some cases of the series the diagnosis was by no means certain. Since the date of Arrowsmith's paper I have been able to find records of nine additional cases, as follows: Borgoni, Gior. Ital. di Lar., No. 1, 1899, p. 1; Yearsley, Jour. Laryngol., Vol. xiii., 1898, p. 303; Douglass, N. Y. Med. Jour., Jan. 7, 1899, p. 6; D'Aguano, Arch. Ital. di Otol., Vol. iv., 1896, p. 99; Reale, Arch. Ital. di Laringol., Vol. xx., 1900, p. 57; McKinney, N. Y. Med. Jour.,

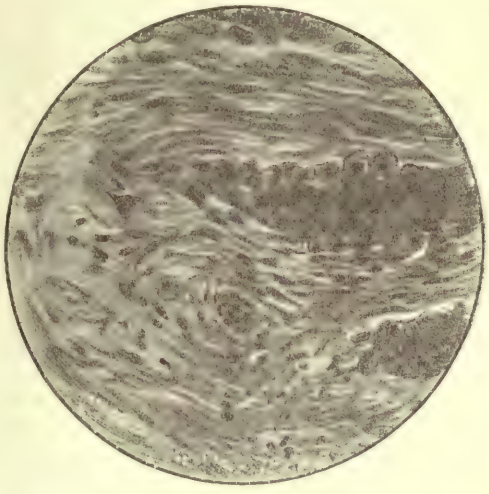

Fig. 2. The Same as Fig. 1, High Power.

Mar. 4, 1899, p. 290; Williams, Diseases of the Nose and Throat, 1895 (two cases); Noquet, Rev. hebd. de Laryngol., Sept. 18, 1897, p. 1121.

Case III.—Sarcoma of Branchial Cleft: G. A. D., American, carpenter, aged sixty-five years, came to the Out-Patient Department of Roosevelt Hospital March 7, 1901, complaining of a "swell-

[1] Laryngoscope, Nov., 1897, page 283.

ing in the throat." The notes of the case are taken from the records of the First Surgical Division of the Hospital, service of Dr. Robert F. Weir, to which the patient was referred for operation. The patient was a moderate user of alcohol, had had lumbago and some catarrh of the throat, but

Fig. 3. Fibroma Papillare of Nose.

had been otherwise well until two years before coming under observation. There was no history of syphilis.

Two years ago he noticed a swelling on the right side of the palate and a soreness in the gums of the same side. The swelling gradually increased, with a continuance of the soreness, until one year ago when it was lanced and a fluid, of thin consistency and clear in hue, escaped. Since that time he has had no pain. After the lancing, the swelling gradually increased again for six months when it was again lanced, and this operation has been repeated several times. No change in the character of the fluid was noted. The swelling began near the middle line of the soft palate and never entirely disappeared after incision, but gradually spread to the side of the mouth and somewhat backward and forward. At first it was supposed by the patient's physician to be some sort of quinsy. Speech gradually became muffled and indistinct and there was some limitation in the movement of the jaws. No lumps were noted on the side of the neck. The appetite had been poor for two years and he had lost some ten pounds in weight. There were dyspnea and palpitation on exertion. The heart was normal, but the lungs were somewhat emphysematous.

Examination of the throat revealed the soft palate pushed well over toward the left by a tumor occupying the right side extending from opposite the last molar tooth upward and inward to beyond the median line, downward to the floor of the mouth and backward into the pharynx. It was tense, elastic and smooth with one or two harder spots on its surface. It could also be felt just behind the angle of the jaw and fluctuation was transmitted from pressure on the inside to the finger on the outside of the mouth. No enlarged glands were discovered either in the neck or on the floor of the mouth. There was slight tenderness over the cornu of the hyoid bone on the right side.

On March 16th Dr. Weir operated as follows: An incision was made from half an inch below the lobe of the right ear down along the middle of the sternocleidomastoid muscle to the level of the thyroid cartilage. A second incision was made from the margin of the jaw one-half inch from the median line to meet the first opposite the hyoid bone, through skin, fascia and platysma, until the muscular planes were reached. The digastric and stylohyoid muscles were exposed. The tumor was felt above the muscles, running up beneath the jaw and the tissues were incised down on to it. The mass was of a bluish color and felt cystic. Blunt dissection with the finger was carried all around it and the tissues freed from it. It was found to reach upward almost to the base of the skull. It was carefully separated from the muscular structures of the pharynx and soft palate, caution being taken not to break through the buccal mucosa to which the sac-wall was attached. In this way the tumor was shelled out. It was about the size of a mandarin orange and on one portion of the wall was a solid mass, in size and shape resembling a tonsil. In the process of removal a portion of the sac-wall was punctured and a bloody fluid escaped. The progress of the case toward recovery was uneventful. The mass removed was sent to the laboratory of the Columbia University Medical School and the report returned read as follows: "Telangiectatic sarcoma of the branchial cleft with hyaline degeneration; lymph-nodes hyperplastic; no tonsillar tissue."

My thanks are due Dr. Weir for courtesies rendered in connection with the case.

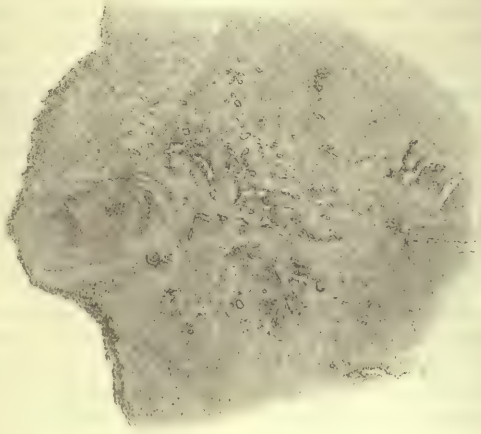

Fig. 4. Angiofibroma of Nose.

Case IV.—Angiofibroma of the Nose: J. K., Irish-American, aged twenty years, was referred to me by Dr. F. R. Oastler, April 29, 1901. His family and previous history contained nothing bearing on his present condition. For seven

months he had complained of nasal stoppage alternating from side to side, but finally settling and becoming permanent on the left side. Examination through the nasal speculum showed what was apparently an ordinary nasal polyp hanging from the middle turbinate. The post-nasal mirror, however, revealed a mass in the nasopharynx reaching back from the choanæ, but apparently blocking only the left. On attempted removal with the cold wire of the mass visible anteriorly, the growth proved to be so hard that the wire would not cut through it and pulled out of the snare. On a second attempt the wire actually broke. The bleeding was very free, but was checked with gauze packing. The next day with the same snare a piece was removed and sent to Dr. Wright for examination. On this occasion the bleeding was excessive and was checked with difficulty. The patient has been advised to submit to radical intervention, but thus far has refused his consent.

The report on the growth was as follows: "An irregular fragment of tissue hardened in alcohol of gradually increased strength, mounted in celloidin, cut and stained with hematoxylin-eosin, shows in some areas a structure at first glance resembling an ordinary edematous polyp. There is, however, even in these places much more fibrous tissue than usual, but it has undergone a hyaloid change, the outlines of the fibers being broken, irregular, strongly refractive of light and taking the eosin stain deeply. In the field from which the drawing (see Fig. 4) is taken, there is a dense ovoid fibrous nodule, plainly discernible. Throughout are to be seen numerous vascular channels, enough to warrant the term "angiomatous." They are lined with a layer of endothelial cells, the other part of the walls of the vessels being the fibrous tissue itself. Under a higher power many of the nuclei of these endothelia are seen to be swollen and projecting into the lumen. In the areas where the fibrous tissue is broken, there are large numbers of mononuclear round cells. The epithelium of the surface is of the modified columnar variety without cilia. No glands are to be seen and the new Weigert stain does not reveal any elastic fibers. There are no evidences of malignancy, but from the history I should suspect that the piece removed is not characteristic of the whole. Whatever else the rest of the growth may show, I should expect it to be vascular and fibrous. I see nothing in the clinical history to warrant any other diagnosis than the findings of the histological examination, *i. e.*, an angiomatous fibroma."

Such cases are extremely rare. The one in question has come under observation so recently that I have not had time to look up the literature of the subject. Dr. Wright informs me that he has knowledge of only one other similar case, namely, that submitted to him by Dr. C. H. Knight and which is published in the Manhattan Hospital Reports for January, 1895. In this latter case the growth was small and movable, being attached to the posterior end of the middle turbinate. It was covered with columnar epithelium and was made up exclusively of homogeneous bundles of curling elastic fibers.

The exact origin of the growth in my own case, I have thus far been unable to determine. It apparently springs from the general region of the middle turbinate, but more definitely than this, I cannot say. A physician who saw the case before I did reported that the post-nasal prolongation pulsated. I could not determine this at the times of my examination.

118 West 69th Street.

BIOPSY—THE HISTOLOGICAL DIAGNOSIS OF DERMATOSES AND TUMORS OF THE SKIN OF DOUBTFUL CHARACTER.

BY JEAN DARIER, M.D.,
OF PARIS, FRANCE.

It would be unjust to say that progress has not been made in the last twenty years in exact knowledge of many cutaneous diseases and tumors. Nevertheless in every dermatological clinic and even in active private practice scarcely a month passes without presenting a dermatosis or a neoplasm, the nature of which it is impossible to diagnose with certainty. I do not here refer to the doubts of the practitioner little versed in dermatology; I have in mind the learned and experienced dermatologist, commanding all ordinary or necessary means of information, who may easily find himself face to face with affections which cannot be diagnosed with all the resources of the ordinary clinic.

What can be done in such a case? The lesion has been examined with the greatest care, the entire body has been explored, the patient's previous history and the evolution of the disease have been investigated as far as possible, competent consultants may even have been called in, and doubt remains. This doubt may have the most serious consequences. Suppose, for example, an ulcerative lesion of the nose or lips which might be syphilitic, tuberculous, cancerous or actinomycotic. According to the nature of the lesion it could be cured by specific treatment, or it might demand cautery or scarification, or might call for complete and rapid destruction or ablation. In the face of a spreading lesion shall experimental treatment be tried at the risk of losing valuable time? Or, on the other hand, shall the patient be submitted to a radical disfiguring operation without absolute necessity? In doubtful cases of this nature there is an "invaluable resource which will solve the problem rapidly, almost with absolute certainty, and without discomfort or danger to the patient; I refer to biopsy.

The name "biopsy," coined by Besnier, is most happily chosen. Biopsy is a sort of "autopsy on the living;" it is the excision of an eruptive lesion or a fragment of tumor for the purpose of establishing the diagnostic histology of a malady. It is to take not a scale, a crust or a hair, but a complete eruptive element and thus to add to the

symptomatology of a disease the notion of its pathological anatomy. One can well understand the value of resort to such a means of investigation when the insufficiency or vagueness of the objective and rational signs leave the clinical diagnosis in a state of doubt. Moreover, biopsy makes it possible to discover and describe in complete form a certain number of new diseases which to-day are entitled to a legitimate place in dermatological nosography. Hitherto, biopsy has only been mentioned incidentally and apologetically, apropos of some rare and curious affection, as an extreme resort where all other means of diagnosis fail. It deserves a place different from that which has been accorded it.

The question whether one is justified in removing a shred of skin from a patient is best answered by comparing the advantages of the practice with its disadvantages. The advantage of biopsy is that it furnishes a means of diagnosis, and upon diagnosis treatment depends. Its disadvantages may be briefly enumerated and disposed of, as follows:

1. *The Apprehension of the Patient.*—This is easily obviated by reasoning presented with tact. In more than six hundred proposals of biopsy I have met with only two or three refusals.

2. *Pain of the Operation.*—I shall point out farther along how this can be obviated; the same will be done concerning hemorrhage, which, while disconcerting at times, never is dangerous.

3. *Infection.*—This is easily avoided by strict asepsis. The cicatrix does not seriously enter into consideration if biopsy is resorted to only in grave cases. It may be said that the real obstacle to the general adoption of the biopsy resides in the demands it makes for time and for expertness in histological technic. In any event the physician who is insufficiently equipped or too much occupied to make the necessary histological examination can always submit the specimen obtained to a histologist.

Method of Operation.—The choice of the portion of the tumor or ulcer to be excised is a delicate matter, demanding a clear idea of what one is seeking; on this choice depends the ultimate success of the operation. General instructions can scarcely be given on this point. In the case of an eruptive element, however, it is desirable ordinarily to choose the most recent among the most typical spots found; in the case of an ulcer, the part excised should include the border with a small portion of the base; in the case of a tumor the most characteristic area should be selected.

The dimensions of the fragment to be removed vary according to the case; as a rule, a piece as large as a hemp-seed or a lentil suffices. The process of removal must insure a piece which is neither crushed nor torn. It is inadvisable to use the sharp curette or the scissors because these instruments compress and destroy delicate tissue. Methodical surgical procedure, with incisions by the bistoury under aseptic precautions, with local or general anesthesia, hemostasis and continuous sutures, is applicable only to cases where hairy skin is removed, or where extensive sections are to be made. As a rule this procedure is too long, too complicated and too alarming. The following method is simple and rapid and gives excellent results in an immense majority of cases.

The instruments required are a von Graefe knife, anatomical forceps, histological scissors, either straight or curved, with blunt ends; these are sterilized. The operator's hands are washed; the field is disinfected. If the patient is timorous anesthesia is obtained by means of an ethyl-chloride spray; a disadvantage of this method is that when the tissues are congealed it becomes difficult to distinguish the element chosen for incision. To overcome this obstacle the part may be previously marked with ink; another method is to postpone the operation until the moment when the blanching of the skin disappears—anesthesia is not complete at this moment, but there remains a sort of stupefaction of sensibility.

Subcutaneous injections of cocaine must be rejected absolutely in this operation because of the local edema which they produce, the interstitial hemorrhage provoked by the needle, and the alteration in the tissues which results from contact with an aqueous liquid. But in ulcerations and erosions of mucous membranes one may apply locally a cotton sponge soaked in solution of cocaine, 1 in 10. Practically, local anesthesia may generally be dispensed with. It is well to remember that the best analgesic is an exceedingly sharp instrument.

In making the incision the operator picks up the selected part with the thumb and forefinger of the left hand; this fold is transfixed at the desired depth by the Graefe knife, which is plunged beneath the portion destined for excision; the knife now cuts a flap which includes the desired piece. The flap is picked up with the forceps, is detached at the base by the scissors, and the section is immediately plunged in the fixing fluid.

Hemorrhage usually is insignificant, but is somewhat more abundant where an anesthetic has been employed. A good local hemostatic is a fine powder of juniper-wood, sterilized by heat and impregnated with vapor of creosote. This is superior to antipyrine and more practical than gelatin, which must be softened by heat. Sutures may be resorted to after deep and wide excision of healthy tissue—a rare condition in biopsy. A simple dressing of iodoform gauze held with collodion, suffices.

Histological Technic.—Sufficient instructions on this point cannot be given within the limits of this article. Those familiar with laboratory methods of fixation, hardening, cutting and staining will know how to apply those methods. The most common mistake is to apply a single method indiscriminately to every case. Reagents should be chosen with reference to the object sought. For example, to use alcohol, paraffin or celloidin in examining a xanthomatous tubercle is to de-

feat one's aim, inasmuch as the fat which ought to be preserved would thus be dissolved.

The excised tissue should at once be immersed in the fixing agent which has been chosen. In most cases preference may be given to alcohol or acetic sublimate. Where alcohol is used it is possible to make a section of the already hard specimen within several hours of the operation; by staining with picrocarmine and mounting in glycerin, a rapid diagnosis may then be made. If doubt remains, there is nothing to prevent the preparation of a second specimen by imbedding in paraffin or celloidin in the usual way.

It is frequently important to make the section exactly perpendicular to the skin, or as nearly so as possible, so as to include the various parts of the tissue. For example, in making a section of the border of an ulcer, the part removed should include healthy skin as well as the border and the floor of the ulcer.

Staining and mounting are the final steps. Staining fluids should be regarded as true microchemical reagents of extremely sensitive character, capable of bringing out certain properties of the tissues and elements on which they act; they should be chosen with reference to the problems which present themselves in each case.

Indications for Biopsy.—Biopsy is indicated whenever the practitioner is face to face with a cutaneous lesion, or an accessible lesion of a mucous membrane, of which definite diagnosis cannot otherwise be made. Clinical diagnosis must naturally be pushed as far as possible first. As the nature of a dermatosis often becomes clear when its special evolution is observed, patients should be kept under observation for some time before resorting to biopsy, except in urgent cases.

With regard to urgency, there are two distinct classes of cases. The first group, in which the indication is absolute and pressing, includes tumors and ulcers of doubtful character which tend to invade surrounding tissues, such as tumors of the tongue, lips or face. Here biopsy is obligatory and indispensable, as it alone can decide whether treatment is to consist of specific medication, topical applications, or surgical intervention. Prognosis often depends on precision and rapidity of diagnosis.

It is entirely otherwise with a second group of cases. For example, in the case of multiple tumors, annoying to the patient, but unquestionably benign, or of a persistent eruption of indeterminate character, the biopsy may be proposed as a means of throwing further light on the case. Without attempting a classification of cases in which biopsy is either obligatory or merely useful, let me try to give an idea, based on my personal experience, of questions which this operation may be expected to solve, and of the relative frequency with which these questions present themselves.

In the front-rank must be placed the diagnosis of epitheliomata; the most common cases are those presenting an ulcerative lesion of the face or of the buccal cavity. The clinician is often uncertain whether he is dealing with an epithelioma, a tuberculous ulcer, a gummatous syphilide, a chancre or a dental ulceration; at times even actinomycosis, farcy or sarcoma must be taken into account. Even when all the probabilities point to cancer, it may be desired to settle all possible doubt before resorting to a mutilating operation.

Superficial and benign epitheliomata are sometimes difficult to distinguish from lupus vulgaris, tuberculosis verrucosa or lupus erythematosis. Often in affections which have been termed "precancerous," such as senile keratoma, xeroderma pigmentosum, leucoplasia, Paget's disease of the nipple, one is uncertain whether the epithelial modification has become epitheliomatous. In all these cases biopsy become absolutely necessary.

The numerous varieties of cutaneous tuberculosis furnish frequent occasion for fruitful resort to biopsy. Vegetating or ulcerative lupus may also become a point of departure for the development of epithelioma. The difficulty of distinguishing certain cases of lupus and of tuberculous ulcer from tertiary syphilis, is classic.

The dermatoses which are grouped in the vague class "tuberculides" almost constantly demand biopsy for the determination of diagnosis. This is true for follicular tuberculides, acne cachecticorum, lichen scrofulosorum, and for tuberculides in the form of disseminate lupus. The recognition of lupus erythematosis is usually easy, but there are doubtful cases.

Syphilis produces lesions so polymorphous and dissimilar as to simulate nearly every variety of tumor, ulcer or dermatosis. Hence there is here a large field where the microscope is at present useless. The syphilitic chancre, the secondary and tertiary lesions have a pathological anatomy which appears more and more pathognomonic the more one studies it closely. In any case their histological differentiation from tuberculomata and tuberculides, from leprosy, mycosis fungoides, various species of sarcoma, is nearly always easy; their differentiation from epitheliomata is truly elementary.

The difficulties of diagnosis between syphilides and epitheliomata are related exclusively to biopsy. It is to biopsy and not to the test of specific treatment that one must address himself in a doubtful case. If mercury administered by mouth or by inunctions to patients suffering from epithelioma is simply useless; if insoluble injections (and notably injections of calomel) appear at the beginning of epithelioma to be capable of diminishing the volume of the tumor, iodides are on the contrary distinctly injurious to such patients, inasmuch as they stimulate the epithelial neoplasm. Hence here as elsewhere diagnosis must *precede* treatment.

Leprosy must be more and more taken into account in doubtful cases, since easy communication has been established with countries where this malady produces its most serious ravages. In the early periods the presence of Hansen's

bacillus may be demanded to make the diagnosis certain. Recent researches have shown that often one can discover this germ in the mucous membrane of the nasal fossæ. If this fails, and if the case presents suspicious tubercles or even macules, it is necessary to resort to biopsy.

Mycosis fungoides is another grave disease in which one should surround his diagnosis with every guarantee of accuracy. The structure of these tumors is characteristic; but biopsy is especially valuable for diagnosis during their early stages, when they present the appearance of eczematous or lichenoid plaques, or of mycotic erythodermia.

Sarcoma and its special varieties, lymphosarcoma, angiosarcoma, fibrosarcoma, often cannot be diagnosed with precision without resort to the microscope. In actinomycosis, farcy and glanders, rhinoscleroma, the pathogenic element is relatively easy to discover; nevertheless biopsy may be here appealed to to furnish an additional diagnostic point.

Cases in which biopsy is optional are those of benign multiple tumors which are depressing because of their number and persistence. If any doubt remains as to the nature of such tumors it is wise to propose biopsy. This group includes nævi, sebaceous adenoma, lipoma, fibroma, myoma, angiokeratoma.

In special cases I have resorted to biopsy for the diagnosis of common dermatoses, which in an immense majority of cases can be differentiated without question by mere clinical examination. Among these are seborrheic eczema, psoriasis, pityriasis rubra pilaris, lichen planus—the latter, especially in atypical forms, may accidentally present problems which histological examination is capable of solving.

To sum up, biopsy is an operation which furnishes an easy and rapid means for establishing or confirming a diagnosis otherwise impossible or doubtful in the case of various dermatoses and cutaneous tumors. It is too often neglected by some, and very rarely employed by others. For this reason I have believed it worth while to recall it to the attention not only of dermatologists but of physicians and surgeons generally.

REPORT OF TWO INTERESTING CASES OF APPENDICITIS.[1]

BY WILLIAM B. YOUNG, A.M., M.D.,

AND

WILLIAM M. JOHNSON, M.D.,

OF BON AIR, TENN.

THE question of when and how to operate in all cases of appendicitis is still an unsettled one, and until it is definitely determined, I suppose papers will be read and discussed at the meetings of almost all medical societies. In point of fact such should be the case, because the more the subject is discussed the nearer we approach the truth.

[1] Read before Upper Cumberland Medical Society.

The two cases I here report proved to be very interesting and just a little puzzling to the members of our County Society, and for this reason I decided to read a report of them before the Upper Cumberland Society.

Case I.—This was a patient of Dr. H. L. Fancher, who has kindly given me the following history:

"Boy, aged four and one-half years. Dr. Fancher was called to see him on June 27, 1900, and found him in bed with a pulse of 130 and a temperature of 103° F., with considerable tympanites. The parents said that he had been sick three or four days and that his bowels had not moved during that time. The child did not complain of pain, but was very nervous, with extreme subsultus tendinum. He was given ½ grain of calomel every hour until 2 grains were given; to be followed next morning with castor oil.

Next day found the patient's condition was unchanged and without a bowel action. Magnesium sulphate was ordered, one dram; to be followed in four hours by an enema, after which the bowels moved and temperature dropped below 100° F., pulse better, and nervous symptoms improved.

After this the fever began to rise gradually, with morning remissions, until on the fifth or six day the temperature was 105° F. and in the evening he had a dry tongue and some tympanites; assuming by this time a typical typhoid condition. About July 10th the boy began to complain of tenderness in right iliac region, and there was suddenly developed a board-like rigidity of muscles on the right side."

On July 15th I saw the case in consultation. On the 16th the boy was improving, it seemed, and we deferred operation. But on the 20th the condition was much worse, there being extreme tenderness on the right side of abdomen and an enlargement about McBurney's point. I advised an immediate operation. Dr. John P. Williams saw the case at this time and agreed with us in regard to the necessity of operating. I operated on July 21st, assisted by Drs. Fancher and Williams, I opened the abdomen near McBurney's point and found a hard agglutinated mass seemingly just over and a little to the right of the promentory of the sacrum. There were bands of adhesions which ran from this mass to the liver, right kidney and to the umbilicus. Just underneath the umbilicus the adhesions were thickened, forming a hard lump about the size of a large marble, which could be distinctly felt before the abdomen was opened. Not being able to find the appendix, locate any pus nor make a clear diagnosis of what we found, and on account of the very weak condition of the little fellow, we decided to simply close the abdominal wound and trust to Nature.

I was confident that the boy would die, but to our surprise the day after the operation the temperature and pulse began to drop. On the eighth day after the operation the stitches were removed, the wound having healed by first intention, and the temperature and pulse were normal.

On August 5th the case was dismissed, the patient being able to sit up. About the fourth day after the operation the child passed (so the father stated) about one-half pint of bloody pus from the bowels, also quite a quantity of thick milky urine for several days. The urine we examined and found that it contained a quantity of pus.

Dr. Fancher and I at first believed the case to be one of typhoid fever. Whether or not the Doctor has changed his opinion I do not know, but after a careful review of the literature of appendicitis, I am now of the opinion that it was an atypical case of appendicitis. At this writing the boy remains sound and well.

Case II.—I. L. Mc., of Spencer, Tenn., a physician, twenty-eight years old. Previous health from childhood good. About October 1, 1900, the doctor began to feel unwell, and for a few weeks was hardly able to attend to his practice. This he attributed to losing sleep from a busy season in his work. His tongue was coated and he suffered from headache. About three weeks after the beginning of his malaise, he began having wandering pains in the abdomen, lasting from one to five minutes. Between the attacks of pain, he would be entirely easy except for a vague feeling of indisposition. This general painful condition of the abdomen lasted six or seven days, when it became distinctly located at McBurney's point. Within twenty-four hours from this time, the pain became localized and had increased in severity until it was hardly bearable. It required from four to six grains of sulphate morphine in the twenty-four hours to give him relief. This intense pain lasted at this point for about four days, when, all at once, the pain left McBurney's point, and extended along Poupart's ligament down the right thigh. There was also intense pain in the lumbar region. There was no vomiting during the entire course of his illness, but intense nausea was constant. The doctor has no remembrance of having had a chill, nor even chilly sensations. About twelve days before the operation, the doctor's wife took his temperature and it was 102° F. From this time up to the hour of operation his temperature ranged from 100 to 103° F.

November 11th, Dr. A. F. Richards of Sparta was called to see the case, in the absence of Dr. R. E. Lee Smith of Doyle Station, who was detained at the bedside of his dying mother. I will state here that Dr. Smith saw the doctor during the first part of his illness and from the headache, anorexia, the malaise, and so forth, diagnosed it slow fever—a diagnosis I believe any physician at that time would have made. When Dr. Richards saw the case two days before the operation, he diagnosed an appendicular abscess, asked for consultation and they telephoned for me.

After examining the patient, I agreed with Dr. Richards that there was an abscess, but leaned to the opinion that it might be a psoas abscess. So soon as we could procure help from Sparta, fifteen miles distant, assisted by Drs. Richards, Moore and Gist, I opened the abdomen close to the anterior superior spine of the ilium, hoping that we might be able to open the abscess cavity without going into the general peritoneal cavity. But we found this impossible, as we discovered a post-cecal collection of pus. There were no adhesions along the parietal peritoneum and we could sweep our fingers around over the abscess sack, under the anterior abdominal wall—it reminding one of a football in size and shape. It was very fortunate that I made the incision where I did, for the intestines and omentum were all matted together with masses of lymph walling off the pus from the general peritoneal cavity; and there was no space in which an opening into the pus sack could be made without difficult and dangerous dissection, except a space the length and width of the little finger right next to the bony wall. When I entered the abscess cavity with a bistoury, after packing off the general cavity, the pus squirted past the knife to the height of two or three inches. On further enlarging the opening, very offensive pus poured out over the side of the patient, reminding one of water pouring from the spout of an old-fashioned teakettle. The quantity of pus was estimated to be more than a quart. After cleansing the sac as best we could with iodoform gauze, it was gently packed with the same material and the external dressing applied without even irrigating, much less hunting for and attempting to remove the appendix. The patient made an uneventful recovery without a fistulous opening. I wish to state, much to his diagnostic acumen, that Dr. McC. (the patient) believed for some days before the operation that he had an appendicular abscess.

In January, 1901, a few weeks after the wound had entirely healed and the Doctor considered himself well, having regained his former weight and so on, he was taken with a severe attack of influenza. His temperature ran high and the cough was violent and spasmodic. After a day or so there was pain at the site of the old abscess during each paroxysm of coughing. Soon a distinct induration was felt in the region of the scar.

Dr. McC. being so far from a physician (ten miles) decided to be moved to Sparta, fifteen miles distant, where he could have constant medical attention. When he reached Sparta Dr. Richards and I were telephoned for and after a consultation with Drs. Smith, Gist, Breeding and Snodgrass, we deferred operating again until the symptoms were more pronounced. While we procrastinated the abscess ruptured in the scar of the abdominal incision on the day and just a few minutes before the hour set to do a second operation and in the presence of Drs. Smith, Gist, Snodgrass, Lee, Richards and myself. With a soft rubber catheter we washed out the pus sac and again packed it with iodoform gauze without an anesthetic. Dr. McC. remained in Sparta some two or three weeks and the wound was packed every other day by Dr. Richards. After returning to his home, where there was no other physician, his wife packed the cavity. To-day he is

stout (weighing over 200 lbs.), and well, except for this fistulous opening.

Just what the attack of influenza had to do with the return of the abscess, I am not prepared to say. Some French surgeons claim that the germ of influenza quite frequently plays an important part in the production of appendicitis. I am of the opinion that the Doctor is now ready for the removal of the appendix by a secondary operation.

After searching through the literature on appendicitis at my command I find other physicians have met with cases similar to the two I have just described. Among the most interesting are those reported by Dr. H. A. Hare of Philadelphia in the MEDICAL NEWS of July 21, 1900, in an article, "Appendicitis and Typhoid Fever." One case was so strikingly similar to one of my cases, I shall take the liberty of calling your attention to the principal features.

"A young man twenty-one years of age had not been feeling well for several weeks during which time he had a headache. He first complained of pain in the left hypochondrium and in the epigastrium although the entire abdominal region seemed unduly sensitive. There was pain on pressure over the appendix and virtually every symptom necessary for appendicitis—slight rise of temperature, quick pulse, and the abdomen scaphoid. On the second day the pain was markedly increased and was limited to McBurney's point; the abdomen was distinctly hard and board-like. The second day after entering the hospital the symptoms were so typical that Dr. Keen was called in to operate for appendicitis. He agreed with Dr. Hare and they decided to operate in the afternoon, but in the absence of Dr. Keen the patient grew so much worse, Dr. Hearn was called in to do the operation. He concurred in the diagnosis of appendicitis, and urged an immediate operation. Just before beginning the operation the tongue was again examined and on account of it looking somewhat typhoidal, the operation was again postponed. The next day the symptoms were no worse, and to state matters briefly the symptoms gradually faded as those of typhoid fever became more and more accentuated, and at the end of the week all the symptoms of appendicitis had disappeared and typhoid fever was present in its fully developed form."

Dr. Hare states in this paper that he had several just such cases, and it is my opinion that most every practitioner has had similar cases, which he can call to mind or else has overlooked.

The cases reported would naturally suggest the question, When should we operate for appendicitis? There is another question I would like to have discussed by the members of this society, When a large appendicular abscess is opened and the pus evacuated, should we search for and remove the appendix in all cases?

In answer to the first question I might say a great deal would depend upon what the patients and their friends would have to say. During fourteen years of country practice I find that the laity are usually "bitterly opposed" to surgical procedures, however simple they may be, and this I believe to be occasioned by too great conservatism on the part of the country physician. I have now under palliative treatment two uterine cancers which in a short time must carry their victims to a premature grave. Had they applied to a competent surgeon and submitted to a hysterectomy, their lives, in my opinion, could have been assured, so far as this insidious enemy was concerned.

I cannot refrain from saying "Like priest, like people," and we might just as truthfully say "like physician, like patient." We should ever be fresh on the differential, diagnostic points of medical and surgical cases. I am quite sure one reason we country physicians do not meet with as many cases of appendicitis as our city compeers is from the fact that we often fail to make the proper diagnosis. For the same reason we do not so often encounter ectopic gestation, a condition some authorities claim should occur quite frequently in the practice of a physician, doing even an average practice, and it is for the same reason we infrequently have cholelithiasis to treat. From some tubulated postmortems they report one-third of the subjects possessed gall-stones.

I am not an extremist for cutting. There is a beautiful mean, the haven for our patients. Let us not be too handy with our scalpels. Upon the other hand, we should fight against "old fogyism" and the hypnotic state, too conservative and not quite enough preservative. Let us educate our patients that honorable surgery is not butchery, that palliative medicine in operable cases is a deadly dose, and that procrastination in such cases is the thief of their lives.

I would answer the second question by stating that there are cases where I would not be justifiable in attempting to remove the appendix, but for Deaver and surgeons of his skill it possibly might be entirely the proper procedure.

THE PHYSICIAN IN RELATION TO THE DISPENSING OF MEDICINE.[1]

BY J. TRACY MELVIN, M.D.,
OF SAGUACHE, COLO;
UNITED STATES EXAMINING SURGEON; COUNTY HEALTH OFFICER; MEMBER OF THE AMERICAN MEDICAL ASSOCIATION; MEMBER OF THE THIRTEENTH INTERNATIONAL MEDICAL CONGRESS (PARIS); MEMBER OF THE CONVENTION FOR REVISION OF THE U. S. PHARMACOPŒIA, ETC., ETC.

FROM many and varied sources there comes unmistakable evidence that a radical change is taking place in the feeling of the profession throughout the country, regarding the dispensing of medicine direct to the patient by the physician. This is evidenced by the discussions in both medical and pharmaceutical journals, by the acknowledged marked diminution of prescription work in the leading pharmacies, both in the East and West, and in the greatly increased business reported by all the great manufacturing phar-

[1] Read before the Colorado State Medical Society, June, 1901.

macists who cater directly to the physicians' trade. Is this a step backward or forward?

We have noted in our own country the transition of the modern physician, with his smart little case containing practically no medicine from him of the capacious saddle-bags and ample attic supply of fifty years ago or more. We have seen at least one generation of doctors rise up which is as profoundly ignorant of the physical, chemical or botanical properties of the drugs which he uses in his battle with disease as it is possible for any educated man to be. We have seen students graduate from the foremost medical colleges who, after four full years of most diligent study and research, knew of no way of differentiating potassium iodide from common salt or Epsom salts from oxalic acid at the bedside. We have seen many older practitioners who did not know what the U. S. Pharmacopœia was, or its authority. And must we not, nearly all of us, admit that we receive even to-day a large part of our supposed therapeutic knowledge from the innumerable alleged medical journals which flood our mails and which are published solely in the interest of secret and proprietary remedies, often combined in "prescriptions" fearfully and wonderfully devised? Should we not hesitate, then, before changing to a system which will at least presuppose a confidence in the remedial effects of the drugs we use, a knowledge of their physiological action and the ability and willingness to observe results closely and to judge fairly?

We recognize that in times past a dispensing physician has been a term of opprobrium no less severe than that of a prescribing druggist, but this should not prevent our willingness to study present conditions and future prospects along this line. There are doubtless many men whose time is so fully occupied and who have at their command an educated and conscientious pharmacist, that they would seldom care to consider the question of their dispensing any medicines whatever except in some emergency, but the average practitioner, even in the city, I find is constantly using a more generous pocket case and seldom cares to-day to write a prescription for a few tenth-grain calomel powders, or for a couple of Dover powders. It is vastly easier to hand them out from his pocket case in the form of tablets.

But to those of us who practise in smaller towns or in the country, where perhaps we must rely upon the ordinary druggist of uncertain attainments, of limited experience and of doubtful stock, this becomes a more vital and important question than many others upon which we devote much time at our annual meetings and in our journals.

Can we be more certain in the results, more accurate in our dosage, more satisfactory to patient and friends, by dispensing our remedies ourselves at the bedside, than by sending our prescriptions to the pharmacist if there be one? If all these points can be answered in the affirmative our duty is plain and discussion useless, except as to ways and means. It is true that in many of the country districts we have been compelled by our environment to adopt this plan, whether it is really best or not, because of the long distance from any other source of supplies, but the question is, Should the practice be more general and from choice, not necessity.

As to certainty in results, I do not belong to the school of therapeutic nihilists myself. I do not believe that six weeks in bed is the only efficient treatment for rheumatism, or that four weeks in bed with cold baths and proper diet is even a rational complete treatment for typhoid fever, notwithstanding its advocacy by honored clinical teachers. Still, as I have stated in a previous paper presented to this Society, I do believe that most of the Galenical preparations of even our best pharmacies are uncertain and unreliable from their very nature and because of the necessary constant variation in their real medicinal content. The remedies dispensed by the modern physician are not so, being as a rule definite permanent alkaloids or active principles, accurately divided in definite doses by the granule or tablet form in which they are used and expressly prepared for this purpose, making the medication as certain as possible in its results; while its form, which may be modified as a pill, powder or solution, one remedy or several combined, gives unrivaled opportunity to adapt the remedy to the particular case in hand.

Is it more satisfactory to the patient and friends? That must be a matter of personal observation in each community. My own experience is very strong that it is. We all recognize the value of the personality of a physician in inspiring confidence in his patient, and where the patient observes this physician in whom he has such confidence selecting and preparing his medicine right there at the time of his visit, his confidence in a favorable result is immensely increased and no chance is left for those lurking suspicions so natural at such a time, that maybe the druggist did not prepare it properly. It is true that under such circumstances if the results are not what the physician would wish, he cannot lay the blame on the druggist. I cannot too strongly urge this point of the increased satisfaction which medicines given by the doctor give both patient and friends. Another great advantage is the opportunity for making such changes as the progress of your case may demand without attracting notice. We may leave medicine in the morning and find by evening that conditions are quite different from what we supposed or expected. A new prescription, the discarding of the previous medicine, all attract attention and comment, while the dispensing physician may modify, renew or discard with none but himself to consult.

Another important point is the ease with which we may obtain our results by this method. I suppose that there are few of us to-day who do not recognize the general rule of giving any medicine which may be indicated by itself, if

possible, until its definite therapeutic or even physiological effect has been obtained. This means an extremely variable dose which can seldom be provided for as the case progresses unless you are dispensing the medicine yourself, but never under any circumstances where you are drawing your supplies from Galenical preparations of varying strengths, differing ages, unknown origin and from competing pharmacies.

If, then, we conclude that this system is better, safer and more satisfactory to the patient, is it practical, is it wise, is it desirable for the physician? I have already intimated several ways in which it is of advantage to him and I might mention another point of no little importance to those of us who depend solely upon family practice, and that is that in this way we retain a large amount of minor work which otherwise would not come to our office at all. There are very many cases of slight fevers, indigestions, headaches, coughs and bowel troubles which are commonly treated in the family, by the advice of friends or of the druggist, which under this system come to be placed more and more under the care of the family doctor. Not always do these cases mean a straight office fee, but at least they mean something, besides giving one a closer hold upon the family. On the other hand, the question arises, Is such a plan practical for the average practitioner? Does it not involve too much expense without return? Are not there chances for serious mistakes? In a word, does it not add to the burdens of the physician rather than lighten them? I have not found that any of these objections hold good. Almost the only reason why our predecessors so largely abandoned dispensing and began prescribing was because of the skilled labor and complicated processes necessary to extract the medicinal activity from plants, the bulky and inconvenient form in which nearly all medicine existed and the liability to mistakes and errors in guessing at the different doses by the bedside. Now all of this has been wholly changed. Granules and tablet triturates enable one to carry in a two-dram vial the active principle in convenient, accurately divided doses, equivalent to one quart of syrup of ipecac, and proportionally of other remedies. In fact, a thin pocket-case will to-day hold more real medicine than the largest buggy-case of twenty years ago.

For we must recognize that pharmacy has changed during the past thirty years no less radically than medicine and surgery. No longer does the druggist gather his herbs himself or buy them of those who do. Seldom does he even make his own preparations from them, and never does he pretend to extract the active principles or to manufacture his chemical salts. No, progress in this line as in all others has been toward eliminating all of these operations on a small scale and confining them to those great manufacturing houses where unlimited capital provides the highest skill, the most perfect apparatus, the most extensive gathering of their supplies and their most rigid testing, chemical and physiological. If the average druggist has become, by the force of these conditions, merely the merchant whose business is the buying and selling of certain articles, and such is the case in more than nine-tenths of our pharmacies, why should we still possess the delusion that he is a necessary professional partner?

It is objected that when once a physician limits himself to those remedies which he himself carries, he gets into ruts and makes a limited assortment answer when perhaps he would make a wider selection more accurately fitted for the case in hand were he prescribing from a well-supplied drug-store. Theoretically this appears to be true, yet it is almost humiliating to find within what narrow therapeutic lines our most prominent men confine themselves. There are to-day in our Pharmacopœia more than nine hundred official remedies and we know that very many of those most used are not yet official, yet in one of the largest hospitals in this country, with their staff of over one hundred physicians, I found their dispensary to contain less than one hundred remedies and almost three-quarters of their three hundred daily prescriptions were prepared from twenty-five of these. My experience of many years behind the prescription-counter in this and other cities proved to me again and again that ninety out of every hundred consecutive prescriptions by any one man could be prepared with a list of thirty-five remedies. Of course, a larger number taken consecutively would show a wider variation owing to the changing seasons and the trial of newly recommended drugs. So I would submit that an average practitioner can readily select, say, fifty remedies or combinations, which will include all that he will under any circumstances use in nine-tenths of his work, and with them he will form combinations more efficient and more acceptable in every way to the patient than the prescriptions he writes, for in this way he will learn how atrocious some of the recommended formulæ in our standard text-books are to sight and taste, especially if he tries to administer them to children. These fifty selected remedies would not occupy six feet of narrow shelf-room and half of them would be needed in the pocket case. One's location and surroundings and one's own experience would say to what extent this stock should be increased. In my own case, although I have for years owned the only drug-store in our community, I have found it far more satisfactory in every way to attach a complete dispensary to my office, and provide it with every convenience for easy and accurate work, so I find that I have over six hundred remedies and preparations on my shelves, yet of my last thousand prescriptions, for I keep as accurate a record of all medicines dispensed, as though the prescription was to pass through another's hands, nine hundred and twenty were drawn from a group of forty remedies of which twenty-two were alkaloids, five synthetics and thirteen chemical salts.

In conclusion, I would only enter a plea for a thoughtful recognition of the changed conditions of to-day and for a return to that accurate, well-trained clinical observation of the actual effects of every remedy administered by the physician in each case that he treats, to the end that the vast mass of therapeutic trash which now confuses and misleads us may be wholly swept away and that the physicians of the present and future may be so trained and educated as to give to this most important branch of our profession, that same skilled attention, born of scientific laboratory methods, which they now give to differential bacteriological diagnosis or to blood-examinations.

This will only be when our colleges and the profession at large will have turned from the traditions and customs of the past and brought themselves into the closest possible contact with the Nature and peculiarities of the weapons which they are using and their improved and modern forms.

ANCHYLOSTOMA DUODENALE IN TEXAS.[1]

BY M. CHARLOTTE SCHAEFER, M.D.,
OF GALVESTON;
PATHOLOGICAL INTERNE OF SEALY HOSPITAL, GALVESTON.

While anchylostoma duodenale has been widely recognized as a parasite of the human intestine in various tropical and subtropical regions of both hemispheres, its observation in the United States has been extremely rare. It was recognized[2] as early as 1830 in Louisiana by Chabert and in 1840 by Duncan, and in Georgia by Lyell in 1849. Blanchard[3] mentions its observation also in South Carolina by Heusinger and Geddings and in Florida by Little and Letherman. In 1867 White[4] exhibited before the Boston Society for Medical Improvement several specimens of the worm which, however, were obtained from a patient of Dr. Wucherer in Bahia in Brazil. In 1893 Blickhahn of St. Louis[5] encountered a case in the person of a German recently immigrated into this country, and specimens of the parasite from this source were demonstrated before the Philadelphia Pathological Society by Stengel about the same time.

In 1894 in a paper read before the Texas State Medical Association upon observations upon human parasites encountered in his forty years of practice of medicine, F. Herff of San Antonio[6] mentions the case of a Mexican woman in whom at autopsy he encountered several examples of what he believes to have been the parasite in question; and refers to having met with the symptomatology of the worm in several Italians under his care at a later period.

In a hasty examination of the usual works of reference the writer is unable to meet with other instances credited to the observation of American, particularly Texas, physicians, and therefore believes the records of the following case worthy of presentation, particularly as there is distinct reason for believing the parasite a not very uncommon, but generally disregarded one in this part of the world. In the summer of 1893, while demonstrating to a private class the microscopical characteristics of the human stool, the material being obtained from the general closet of the medical school in Galveston, Dr. Allen J. Smith encountered the ova of the parasite in considerable numbers, but was unable to find the person from whom the stool had been discharged. In the winter of 1898-99 he twice encountered very similar worms in the intestines of dogs killed in experimental work in the institution, two specimens from this source, attached to the intestinal mucous membrane, being now exhibited in the museum of the school. Since the recognition of the case to be described a similar discovery of ova in the fecal matter taken from the closet for the purpose of class demonstration has been made with this in view, and led by the general symptoms of the patients and the discovery of more or less well-marked eosinophilia in the blood of two of the medical students apparently suffering from malarial attacks, Dr. Smith has examined the stools of both subjects and succeeded in demonstrating the anchylostoma ova in both. In the first of these two cases the malarial parasite was also met, and after a few days the patient went home before measures for the elimination of the intestinal parasite could be taken. In the second case no malarial hematozoa were found after repeated and prolonged search; on April 22d, after the administration of large doses of thymol, two female anchylostomata were obtained by Dr. Smith.

It would seem, therefore, that hitherto insufficient attention has been given to the possibility of the existence of this worm in patients living in this region, and that it is desirable in cases of indefinite anemia associated with gastro-intestinal disturbance, and perhaps edema and irregular febrile paroxysms similar to those of malarial fever, to make careful microscopical examinations of the fecal matter with a view to recognizing or eliminating the possible influences of this worm.

The case under personal observation is a patient in the United States Marine Hospital wards in St. Mary's Infirmary at Galveston, under the care of Dr. W. Keiller to whom the writer wishes to express appreciation for the courtesy in permitting this presentation.

G. S., white, sailor, aged forty years, born of American parents in Melbourne, Australia, where his father was a merchant. There is nothing of special importance in his family history, his father dying from cardiac disease at the age of fifty-two years, his mother from unknown cause at the age of sixty-two or sixty-three years, and the one other child, a brother,

[1] From the Pathological Laboratory of the University of Texas, 1901, read before the Texas State Medical Association.
[2] Dolley, Annual of Universal Medical Sciences, 1891.
[3] Traité de Zoologie Médicale, Vol. I., p. 744.
[4] Boston Medical and Surgical Journal, Vol. LXXV, p. 427.
[5] Medical News, 1893, Vol. LXIII., p. 662.
[6] Transactions of Texas State Medical Association, 1894; Texas Medical Journal, June, 1894.

drowned. The patient lived in Australia until eleven years of age, when he went to sea, and since then has spent most of his life as a sailor upon American vessels, for the most part in long voyages between New York and China *via* the Cape of Good Hope. During his seafaring life his health has been invariably excellent, the present illness being the first compelling him to go to bed for any protracted period. In the early part of last August he accepted a position as overseer upon a large plantation in the State of Chiapas in the southern part of Mexico, remaining in service at this place sixty-five days before his failing health forced him to leave. The patient attributes his present illness wholly to the effects of drinking notoriously unfit water from a creek and river from which all the water supply of the plantation was obtained. While after heavy rainfalls the river water was not unpalatable, at other times it became greenish in color and nauseating to the taste. Large numbers of persons employed upon the plantation had been known to sicken and often to die, not only the overseers and workmen, but women and children, who are not engaged in any of the field work, almost all after the same train of symptoms presented by the patient; and even the Indians rarely remained in the locality more than a week or ten days, invariably leaving because of the lack of proper water. Two days after the arrival of the patient at this plantation there came a colony of about seven hundred Russian peasants to work upon the estate, and in the sixty-five days of his stay there the patient states that no less than three hundred and seventy-eight had died; many others had left and most of the few who remained were sick, pallid, emaciated and often dropsical. Nearly all took sick with vomiting, bloody diarrhea, developed an intermittent type of fever and rapidly wasted. After the disease had proceeded some degrees the limbs usually became swollen, the dropsy extending in some instances to the abdomen, and generally after the development of the edema death occurred.

The food served on the plantation the patient describes as not very agreeable; for the most part it was well enough cooked, but the service at table was not appetizing. It consisted mainly of frijoles and rice with fresh meat about three days in the fortnight. Aside from these features the patient is unable to indicate any definite fault in his mode of life at the plantation in question. After he had been on duty at this plantation for about two weeks (about the middle of August) he lost his appetite and became nauseated; presently persistent vomiting and diarrhea set in, and he developed irregular malarial-like febrile paroxysms. These symptoms persisted and became severe; after the seventh week he rapidly lost weight and strength, so that about the tenth week he was forced to relinquish his position and make his way back to the coast. When he left Vera Cruz for the plantation he weighed 175 pounds; when he left his weight had fallen to 125 pounds. He returned to the coast and remained there for several weeks until an opportunity to ship on a schooner bound for Sabine Pass was afforded. He remained at Sabine Pass for several days, then came to Galveston, arriving on December 21st, and at once entered the hospital. On the trip from the Mexican coast he improved somewhat generally and was able to take a hand at the wheel, but was unable to do the general work of a seaman. When the diarrhea first set in it was not dysenteric in character, but about September 10th he began to note the presence of blood in the discharges, and during the remainder of this month and the early part of October considerable blood and mucus were constantly present. Much tenesmus accompanied this diarrhea, especially during the time when most blood was being passed, the pain being so great that at times when at stool he lost consciousness. At the worst period the discharges were very frequent, as many as several dozen in the twenty-four hours, the least solid or liquid food, especially water, being at once followed by intense tenesmus and an urgent desire to evacuate the bowel. After leaving the plantation this condition improved somewhat, the discharges becoming somewhat formed and reduced in number to about seven or eight in the day. After he shipped on the schooner to Sabine Pass they were further reduced to about three or four in the twenty-four hours, and remained thus without much blood showing up to the time of admission to the wards. During this period of diarrhea and emaciation the patient's appetite was absent, he became very pallid and icteroid, and at irregular periods there were paroxysms of chills and fever. In the latter part of October, while on the Mexican coast before shipping to Sabine Pass the patient first noticed that his feet and ankles were becoming swollen to the extent that he was unable to wear his boots; the swelling was accompanied by considerable discomfort from the tenseness of the skin and from more or less severe rheumatoid pain in the limbs and feet. The skin of the ankles and feet became diffusely bronzed and several large bullæ appeared upon both feet and ankles, filled with an acrid, clear serum, and healing without scar formation after being punctured several times in different places.

When the patient was admitted to the Marine Hospital wards on December 21, 1900, his condition was as follows: He is a man five feet and ten inches in height and weighs about 125 pounds, much emaciated and pale, with a distinct icteroid tint of the skin and conjunctivæ. He is very weak, but able to stand and walk about the wards; the ankles are diffusely pigmented and pit deeply on pressure, the edema extending as high as the knees. He complains of considerable discomfort from the latter and a dull pain in the limbs, as well as of some discomfort and tenderness in the abdomen, particularly in the region of the spleen. Examination of the chest shows no important pulmonary alteration; the respirations are variable, sometimes slow, sometimes

rising as high as thirty to the minute, and generally rather shallow. The pulse is generally rapid (about 100 per minute) and soft; and a soft systolic murmur can be heard in the mitral areas. No enlargement can be detected in the hepatic or splenic areas; but there is decided tenderness in the left hypochondrium.

About the time of admission the temperature was elevated to 38.9° C. (102° F.), falling the next day to about normal; on the third day slightly subnormal; on the fourth, 38.2° C. (100.7° F.); on the fifth, 36.6° C. (97.9° F.); on the sixth, 38° C. (100.4° F.); on the seventh, 37.9° C. (100.3° F.); on the eighth, the same; on the ninth, 37.3° C. (99.1° F.); on the tenth, 39.6° C. (103.3° F.); on the eleventh, 36.7° C. (98.1° F.); on the twelfth, 40.5° C. (104.9° F.), and thus onward, for the most part nearly normal or slightly subnormal, with irregularly appearing accessions corresponding to malarial-like paroxysms in which the temperature would often mount to over 40° C. (104° F.).

These paroxysms, while rather irregular, were in their occurrence somewhat suggestive of a quartan type of malarial fever, and at first a tentative diagnosis of this affection was made and the patient treated accordingly. Repeated examination of the blood by the writer and others failed, however, in every instance to detect the hematozoa, although there was always recognized a distinct leucocytosis in which an eosinophilia was apparent. Administration of quinine and of arsenic apparently had no effect upon the paroxysms or upon the general trend of the disease. On January 25th the writer detected *ameoba coli* in the stools, although the probability of their presence as accounting for the dysenteric symptoms had been previously recognized and treatment for the relief instituted with considerable benefit. At this time the ova of the anchylostoma were overlooked, and it was not until February 17th that the writer while making a careful examination of the stool encountered these objects. At this latter date the stool was soft and unformed, of a rather reddish color from the diffuse admixture of blood; numerous amebæ were met with in active movement, as well as trichomonads. The ova found were in considerable numbers, every specimen of the matter put under the microscope containing several. They were clear, oval bodies, measuring from 55-60 micromillimeters in long diameter, and about 45 micromillimeters in transverse diameter. Within was to be seen a yolk substance in varying degrees of segmentation, usually four or five divisions showing clearly. These objects were, after discovery, readily identified as the eggs of the anchylostoma, and accordingly reported together with the other parasites and the blood and mucus everywhere met with in the specimen. On February 20th, while this stool was being demonstrated to the class in the medical school, a few eggs of the *trichocephalus dispar* were encountered by members of the class and reported to the writer by Dr. Smith. In the meantime, on February 18, Dr. Keiller with a view of expelling the anchylostomata had administered the ethereal extract of male fern, sending all stools to the pathological laboratory for recovery of any parasites passed. On February 19th the first stool following the administration of the anthelmintic was washed through a fine screen of cheesecloth, but no parasites were found. On the following day a second specimen was washed and in this one male *trichocephalus dispar* was found. At about this time the general condition of the patient was more or less alarming and the prostration was such, taken with the frequent and severe febrile paroxysms, that active measures for the expulsion of the worms from the intestine were suspended until March 7th, when the patient had partially recovered his strength. Thymol to the amount of a dram and a half, given with the usual preparation and precautions as to the avoidance of oils and alcoholic substances during the period of its presence in the body, was administered upon the latter date. In the stools following this administration there were found between ninety and one hundred anchylostomata, but no trichocephalids. Almost immediately after recovery from the exhaustion of the remedy the general condition of the patient began to improve, although the general symptomatology was maintained in less severe form. Subsequent examination of the feces showing the persistence of ova of both parasites on April 18th, the thymol was repeated and the stools for the next forty-eight hours washed through a sieve of cheesecloth; on this occasion six or eight more anchylostomata were found, but no trichocephalus. To the present time eggs remain in the stools, but in diminished quantities, and further administration of the anthelmintic is required. The patient is much improved, the icterus is entirely gone, the edema has disappeared, and the febrile symptoms have much abated, but as late as April 21st a paroxysm in which the temperature mounted to 39° C. (102.2° F.) occurred, although for ten days before this there had been an almost normal temperature. The patient is still very anemic, but seems to be slowly improving in this respect and has gained somewhat in flesh and strength.

A blood-count made upon February 17th when the parasites were first found showed a reduction of the red cells to 2,970,000 and an increase of the white cells to 14,300 per cubic millimeter; and upon the following day at 3 p.m. the hemoglobin content was estimated at 57 per cent. The enumeration of the leucocytes at this examination showed the polynuclear and polymorphoneuclear elements to represent 90 per cent. of the total number, the large mononucleated, 2.4 per cent, the small mononucleated, 1.6 per cent., and the eosinophiles, 6 per cent.

Owing to the recent illness of the writer these observations have not been repeated; but several examinations of the blood have been made by Dr. J. T. Moore (to whom she is indebted for the

leucocyte-count just given) for malarial organisms, invariably without result.

The urine has been repeatedly examined by the writer and others and has always failed to show albumin, casts or other elements of special import.

MEDICAL PROGRESS.

Psychical Troubles in Paludism.—While writers on marsh fevers from the time of Hippocrates have time and again referred to the delirium which occurs in the course of such fevers, the abnormal psychical states associated with paludism have not been carefully studied until a comparatively recent date. The subject is carefully considered by J. P. CARDAMATIS (*Le Progrès Méd.*, Sept. 28, 1901) who distinguishes several classes of cases. The psychical troubles of paludism may be (*a*) psychonervous states occurring during the paroxysm of simple intermittent fever; (*b*) disorders occurring in the course of chronic paludism, either accompanying the febrile movements or manifesting themselves in the intervals; (*c*) psychical disturbances associated with remittent or pernicious fevers; (*d*) psychoses of malarial cachexia. It is not the malarial parasite, but the toxins produced by that factor, which constitute the direct pathogenic cause of the various nervous and mental symptoms. The psychoses in question may occur in any victim of the plasmodium, but they are most likely to attack individuals neuropathically disposed; paludium evidently is capable of awakening a morbid predisposition previously latent. Paludal delirium should be classed with other forms of toxic delirium, occurring in infectious diseases. According to the predisposition of the individual and the quantity of active toxin present, one of four degrees of intoxication is produced, namely, excitation, anesthesia, coma, paralysis. The psychoses of chronic paludism are rare, while the real cause of those which are said to occur long after the cure of the malarial condition proper is open to question.

Treatment of Asthma.—The cause of asthmatic attacks, according to G. R. JOHNSON (*Med. Times*, Oct., 1901) depends upon the arterial tension to a large extent and hence indirectly diet becomes an important factor in the treatment. Meats, soups and meat extracts should be avoided as poison, for they are rich in uric acid, which stimulates contraction of arteries. Milk, fruit and vegetables should compose a large part of the diet. A few successful therapeutic combinations are given:

℞ Potas. Iodid.....3iij
Ext. Bellad. Flu.....3j
Ext. Lobel. Flu.....3ij
Ext. Grindel. Flu.....ʒss
Glycerine } aa.....ʒiss
Aquæ }

M. et Sig.: Tablespoonful every two to four hours.

A good external application is:

Chloroform.....ʒss
Olei Terebinthinæ.....ʒi
Sprts. Rosmarini.....3iss

In the suffocative stages of asthma the following is recommended:

℞ Tinct. Lobeliæ.....ʒss
Tinct. Sanguinariæ.....ʒij
Olei Menth. Viridis.....ʒss
Syrupi Empyreumatici.....ʒv

Sig. Half teaspoonful every two hours.

Congenital Heart Disease.—Of 32 such lesions occurring in the practice of J. L. MORSE (*Archives of Pediatrics*, Oct., 1901), the diagnosis of patent foramen ovale was made in 6 cases, patent ductus arteriosus was presumed in 5 and defect in the ventricular septum in 6. In 17 the chief lesion was thought to be at the pulmonary valve. Two of the cases with patent foramen ovale were premature. One case had clubfeet, one was microcephalic, and one developed hydrocephalus. The sexes were about equal. The symptoms complained of were cyanosis in 17 cases, dyspnea in 6, cough in 5, convulsions in 2, edema in 1, and in 14 the lesion was discovered accidentally. Cyanosis was the most common symptom, others being recurrent attacks of severe dyspnea, convulsions, edema, and cough. None of the cases diagnosed as patent foramen ovale died. Six died of the heart disease at 3, 6, 8, 9, 10 and 12 months; 6 died of other diseases; 5 have passed successfully through measles, 8 through scarlatina, and two through whooping-cough.

Myeloma of the Spine with Compression of the Cord.—These tumors produce various symptoms, the most constant being pains in the chest, back and extremities; deformities; gradually increasing anemia. In a case observed by J. J. THOMAS (*Boston Med. and Surg. Jour.*, Oct. 3, 1901) there were symptoms due to pressure on the cord. At a late stage the gait was *spastic-ataxic;* Romberg's symptom was present; there was incoordination of the legs, slight disturbance of the sense of position, marked general paresis of the legs. The muscles reacted normally to the faradic current. The knee-jerks were equal and increased, and there was slight patellar clonus, and ankle clonus on both sides. The plantar, cremasteric, abdominal and epigastric reflexes were absent. The sense of pain and temperature was absent, that of touch diminished. A perusal of the literature shows that albumose was present in 11 of the 19 authentic cases that have been reported. Its presence should at least direct attention to the possibility of disease of the bones.

Gluten and Anti-Diabetic Foods.—An analysis was recently made of various food products sold under the name of gluten and diabetic foods with a view of determining whether any material change had been made from the ordinary

wheat and graham flours. H. C. Sherman and H. M. Burr (*N. Y. Med. Jour.*, Oct. 12, 1901) obtained twelve samples of such foods from various manufacturers and analyzed them most carefully. It was found that not half are noticeably higher in protein or lower in carbohydrate than the ordinary whole wheat flour, and many are scarcely better than white flour or bread. The best sample examined contained twice as much carbohydrate as protein.

Eye-Lesions of Syphilis.—Primary syphilis occasionally appears on the eyelid or conjunctiva, writes Frank Buller (*Montreal Med. Jour.*, Sept., 1901), and secondary syphilis gives a fair number of cases of iritis, but hereditary syphilis, and much more the tertiary stage of acquired syphilis cause most of the syphilitic eye lesions. The interstitial keratitis of hereditary syphilis is seldom treated as such by general practitioners and much harm is done. A true interstitial keratitis may also be a tertiary manifestation. Another specific keratitis is characterized by superficial and deep circumscribed, densely white opacities, very irritative but not tending to ulcerate or become vascular. Every form of specific keratitis is attended with a tendency to iritis. The important lesions are (1) simple plastic iritis, the most common; (2) nodular or gummatous iritis, absolutely pathognomonic, and occurring between six and nine months after the original infection; (3) iritis secondary to choroido-retinitis, indicated by opacity of the vitreous; (4) scleritis resembling the ordinary rheumatic form; (5) gummatous cyclitis, very rare; (6) violet retinitis and much opacity of the vitreous; (7) a milder, more chronic and often relapsing retinitis; (8) optic neuritis, mostly a descending neuritis, due to some coarse intracranial lesion, but sometimes purely local; (9) monocular irido-cycloplegia due to disease of the ciliary ganglion. To these may be added many paralyses of the extrinsic ocular muscles. With but few exceptions these recurring lesions followed long routine treatment by proto-iodide of mercury, varied at times by potassium iodide medication. The best general method of mercurialization is by inunction, though gray powder, vapor baths and hypodermic injections are also effective. The patients should always have tonics as well.

Multiple and Solitary Adenoma of Liver.—Adenoma of the liver is regarded as a congenital new growth by A. Engelhardt (*Deutsch. Archiv f. klin. Med.*, Bd. 63, Heft 1 *u.* 2). The condition presents no reliable diagnostic features. It is frequently associated with cirrhosis, the two pathological changes being independent results of a common cause. A case of multiple adenema with cirrhosis was observed by Engelhardt; clinically the picture was that of simple cirrhosis. The Caput Medusæ was well marked; the umbilical vein in the ligamentum teres remained patent. Thick, tortuous veins were developed on the surface of the liver; these were connected with the venous system of the parietal peritoneum and of the abdominal wall through the suspensory ligament. The liver was smaller than normally, and was studded with tumors of various sizes; these invaded the entire portal system, growing in the vascular walls; the hepatic vessels, arterial and venous, were absolutely free. Within the acini of the adenomata bile pigment was found. In certain areas necrobiotic changes had taken place within the cells. While hepatic adenomata were commonly described as having a poor vascular supply, the growths in this case were rich in capillaries both peripherally and centrally.

Bicycling: Its Indications and Contraindications.—By means of a gasometer attached to a bicycle the air expired by the rider has been collected for analysis, and the amount of energy liberated in the course of metabolism by this form of physiological exercise has thus been estimated. L. Zuntz (*Fortschritte d. Med.*, Sept. 22, 1901) shows that a rider who covers 15 kilometers in an hour liberates ten per cent. more energy than does a pedestrian who walks 6 kilometers in the same period; if the wheelman rides 21 kilometers the energy requirement is almost twice as great as that of the 6-kilometer pedestrian. Inasmuch as bicycling involves so extraordinary a consumption of energy and is accompanied by relatively slight sensations of fatigue, its place in the treatment of obesity would seem to be theoretically established. Like all active muscular exercise bicycling diminishes the quantity of sugar in the urine in diabetes. In slight degrees of anemia bicycling is of advantage as a stimulus to metabolism; in severe cases this form of exercise makes such demands upon the heart that it is contra-indicated. The use of the bicycle favors assimilation in chronic obstipation. Earlier literature contained frequent references to cases of inflammation of the knee-joint, said to be due to bicycling. Recently such cases have ceased to be reported, and it is probable that those originally cited related to individuals predisposed to arthritis. Faulty posture while riding no doubt leads to spinal deformity, and the danger of this result is especially to be guarded against in youthful riders. F. A. Schmidt goes so far as to advise that riding be forbidden to all children under twelve years of age. Many writers have recorded happy results from the adoption of wheeling by neurasthenics.

Lecithin in Tuberculosis.—The efficacy of lecithin in stimulating nutritive exchange has been scientifically demonstrated by Danilewski and Soromo, and later by Desgrez and Zaky. Gilbert and Fournier have shown that the administration of lecithin produces an increase of weight in cases of tuberculosis, neurasthenia and diabetes. The effects of lecithin in cases of tuberculosis are more satisfactorily shown by H. Claude and A. Zaky (*La Presse Méd.*, Sept. 28, 1901), who in their experimental and clinical studies gave special attention to urinalysis, not neglecting, however, to observe carefully changes

in body weight and in the general physical condition of the subjects of their experiments. They find that lecithin causes in tuberculous subjects a rapid modification in metabolism, which expresses itself by an immediate diminution in phosphorus elimination, and by a tendency to progressive elevation of the coefficient of nitrogen utilization. In subjects not in the last stages of chronic tuberculosis and not suffering from an extremely acute attack of the disease, the administration of lecithin produces promptly an increase of weight, stimulation of appetite, amelioration of the general condition. How far local lesions are affected is not shown, but in the opinion of the authors such lesions are modified as indicated by changes in physical signs. Lecithin is strongly recommended by these writers, if not as a specific, at least as an important adjuvant to other forms of treatment.

Gastrosuccorrhea or Reichmann's Disease.—Reichmann was the first to describe the continuous, spontaneous secretion, in the empty stomach, of a substance chemically and physiologically identical with the gastric juice which is ordinarily produced in response to physiological stimulation. A case of true Reichmann's disease is described by L. VON ALDOR (*Berl. klin. Woch.*, Sept. 30, 1901) who states that he has seen five such cases in all, carefully excluding, however, instances of symptomatic hypersecretion, such as is associated with hyperacidity and motor insufficiency. In these five cases the symptom-complex was at times so severe as to suggest the presence of malignant disease. Intense gastric pain occurred entirely independently of the taking of food; vomiting was frequent and copious, thirst excessive and constipation more or less stubborn in every case. The employment of the stomach tube and the careful investigation of the gastric function are indispensable in diagnosis. Characteristic features are (1) the presence of large quantities of gastric juice in the otherwise empty stomach; (2) the low specific gravity of the stomach contents; (3) the excessive acidity of the gastric juice obtained from the empty stomach as well as of that obtained after a test-meal—there is especially an excess of free hydrochloric acid, and to a less degree an excess of total acidity and of pepsin; (4) incomplete amylolysis due to excessive acidity. In Von Aldor's cases these objective findings persisted during periods when no subjective symptoms were present, indicating that the mere presence of the abnormal hyperacid secretion does not suffice to produce symptoms, the latter requiring in addition an abnormal irritability of the gastric mucous membrane. Treatment is most successful when belladonna preparations are used. While atropin is the most powerful agent known in the discouragement of gastric secretion, toleration is speedily acquired. Riegel's experiments have shown that morphine does not diminish gastric secretion at all but rather increases it; hence morphine must be avoided in these cases. While awaiting the physiological action of repeated small doses of atropin, the patient should be instructed to drink warm alkaline waters freely before and after meals. If with these measures we combine the daily administration of one or two drams of Carlsbad salts, lavage will rarely be necessary.

Hydrotherapy in Chronic Diseases.—Nowadays the methodical application of air, rest, exercise, diet and the internal and external use of water are important agencies in the removal of chronic diseases. Among these agencies water is regarded by S. BARUCH (*Boston Med. & Surg. Journ.*, Oct. 3, 1901) as the most indispensable because the most effective. Phthisis forms a striking illustration of the methods of hygienic treatment. The management now generally adopted in the best institutions combines the open air, dietetic and water treatment. Cold water has an irritant effect upon the sensory terminals in the skin; reflexly it causes deepening of respiration, improvement of the pulse, enhancement of glandular action and excretion, improvement of appetite, digestion and hematosis. By means of daily neurovascular training the patient's power of resistance is greatly enhanced. Neurasthenia has proved very amenable to hydriatic treatment. Exercise may be made an important curative factor in diabetes by stimulating the myolemma to utilize sugar. The great lassitude of the average diabetic precludes resort to exercise, but by judicious neurovascular training with cold douches lassitude is overcome. Cases of nervous dyspepsia are also fruitful for hydrotherapy after they have run the gamut from hot water and Salisbury steak to lavage. Charcot's success with cold douches in hysteria has been repeated by many others. Sciatica, neuritis and lumbago are greatly relieved and often removed by hot applications followed by cold douches. Angina pectoris being more frequently false than real, is often removable by hydrotherapy.

Effect of Climate on Nervous Diseases.—Therapeutic climatic results depend principally upon states of atmospheric pressure and the consequent nutritional improvement. F. S. PEARCE (*N. Y. Med. Jour.*, Oct. 5, 1901) says that functional diseases are more particularly influenced by climate. Great altitudes favor circulation in the periphery of the body and assist nutrition by increased absorption of nitrogen and by producing a more active circulation. A great altitude is not good for the neurasthenic who must appropriate nutriments slowly on account of the weakened central nervous system. Insomnia is benefited by lesser altitudes while chorea, hysteria and most of the functional maladies are benefited by life at the sea level. Melancholia and depressed states are helped by high winds and moderate heat. A greater altitude is desirable for diseases of central nervous system, a lesser altitude in cases of peripheral diseases.

Widal's Reaction in Children.—As the result of about 150 tests at the London Hospital for Sick Children, J. H. THURSFIELD (*Pediatrics*,

Oct. 15, 1901) finds (1) that in children's diseases a positive Widal reaction is evidence of the presence of typhoid fever; (2) that a negative reaction later than the tenth day is strong, but not absolute evidence of typhoid fever; (3) that repeated negative reactions are trustworthy evidence that the case is not typhoid.

An Obstetrical Outfit.—As an aseptic labor-bag, capable of holding everything necessary for a case, H. Judson Lipes (*Annals of Gyn. and Ped.*, Oct., 1901) uses a Rochester sterilizer, 16x6x6 inches, with two trays and canvas carrying case. In the lower tray are carried ether, alcohol, an alcoholic lamp, a canvas lithotomy sling, a 3-quart sterile douche-bag, chloroform inhaler and dropping-bottle, and forceps. The upper tray holds a Kelly-pad, operating-gown, rubber gloves, soap, brush, nail cleaner, bichloride tablets, ergot, acetic acid, boric acid, nitrate of silver solution, eye dropper, cord scissors, cord tape, needles, catgut sutures, silkworm-gut for perineal tears, scales, two artery clamps for grasping the cord instead of tying in case of emergency, a lisle-thread braided catheter, and a No. 22 English catheter with stylet for replacing cord, etc. If the case is far from home, he adds a rubber apron, scalpel and blunt bistoury, cranioclast, perforator, speculum, Barnes' bags, etc. If forceps or other instruments are needed, the sterilizer is quickly gotten ready and placed on a stove or over an alcohol lamp. Its lower part can be used for immersing the baby in asphyxia.

The Knot within the Lumen in Intestinal Surgery.—The possibility of introducing a proper intestinal suture without entering into the lumen of the gut is conceded by F. G. Connell (*Jour. Amer. Med. Assoc.*, Oct. 12, 1901), but this writer maintains that in locations other than the duodenum such an attempt is impracticable for the average surgeon. The importance of the submucous coat is recognized, but the difficulty of splitting its fibers is very great. If it is not included there is danger of yielding; if it is perforated the danger of capillarity presents itself. Connell prefers to run the lesser risk of capillarity and recommends a suture which includes all coats and is tied on the mucosa. The advantages claimed to be derived from penetrating all coats of the intestinal wall and placing the knot within the lumen are less danger of peritonitis through leakage at stitch-hole and no yielding of stitch. The suture material all passes away, leaving no foreign body. Diaphragm formation, an inevitable result of every method which adheres to the principle of seroserous apposition, is minimized and post-operative adhesions are greatly diminished.

Human Placentation.—Embryology is always instructive and at times of medico-legal importance, especially such features as pertain to placentation as indicating best the age of the fetus. The following are the latest observations of the second stage of human placenta-formation, according to C. Van Tussenbroeck (*Zeitschrift f. Geburtsh. u. Gyn.*, 1901, B. 45, H. 3): (1) The metamorphosis from the primitive to the discoid placenta occurs at or about the sixth month of gestation. (2) The necrosis of the decidua is the effect of mechanical pressure. (3) The reduction of the tufts on the part of the reflexa is in consequence of the obliteration of the spaces between the chorion and the reflexa. (4) The circulation in the vitelline membrane does not in man have any contact with the chorion. (5) At the sixth month when the transition to the discoidal placenta occurs, the decidua reflexa is totally obliterated. (6) The increase in the area of the placenta occurs by a displacement of the reduplication fold of the decidua reflexa. When the functions of the decidua are ended and the chorion has united with the decidua vera, the growth of the serotina occurs step-by-step with that of the uterine wall. (7) The cotyledons arise from the fact that the outer covering of the serotina offers an unequal resistance to the expansion of the fetal placenta. This resistance is greatest where the uteroplacental arteries run and make there rather fixed points. For this reason the arteries come to lie in the apex of the cotyledons or in the redundant part of the septa between the cotyledons, while the venous structures, being the less resistant, are found at their bases. This arrangement determines fixedly the direction of the placental blood-current. (8) The cortex of the tropoblast described by Siegenbeek Van Henkelom is easily recognizable in the half-developed placenta and distinguishable from the decidua upon which it rests. (9) The "stalk-tufts" (*Haftzotten*) are not in the decidua but in the cortex of the tropoblast. (10) The obliteration of the cell-layer of Langhans takes place by a pushing of these cells between the syncytium. This cell-layer appears to serve only in completing the tissue for the syncytium.

Cystitis, Pyelitis and Pyelonephritis in Women.—Medical literature scarcely affords a more complete account of clinical and bacteriological findings in cases of inflammation of the urinary tract in women, than is presented by T. R. Brown (*Johns Hopkins Hosp. Reports*, Vol. X., Nos. 1-2, 1901). The commonest cause of these infections in women is the bacillus coli communis, which sets up an acute inflammation without the aid of any other micro-organism. Other micro-organisms frequently found are the tubercle bacillus, various staphylococci and the bacillus proteus vulgaris. The proportion of cases due to the bacillus coli communis is greater in women than in men, probably owing to the proximity of the female urethra to the anus. Accessory etiological factors are anemia, malnutrition, trauma of and pressure on the bladder, congestion of the bladder and retention of urine. The bacteriological findings suggest certain therapeutic measures. The urine will probably be a poorer medium for the growth of bacteria, the lower the specific gravity and the less the amount of albumin and of urea present; hence water should be given in large amounts. This

treatment has the additional virtue of flushing out the kidneys and bladder and getting rid, as far as possible, of collections of purulent matter. Urotropin, cystogen, salol and similar antiseptics are of great value in acute infections, although of much less value where the condition has become chronic. If the urine be alkaline, administer substances tending to render it acid, as boracic, benzoic, or camphoric acid; while in those cases where the urine is acid alkalies should be given (as bicarbonate of soda or citrate of potash), the reason being that the urea-decomposing micro-organisms have their growth hindered by the pressure of an excess of acid, while micro-organisms which retain the acidity of the urine have their growth inhibited by an alkaline condition of urine. Correction of disorders of nutrition or digestion is important. Other useful measures are topical treatment, irrigations, instillations; operative treatment of various kinds may also be necessary.

Dilatation and Endometritis.—A logical and scientific parallel between abscess-cavities and discharging sinuses on the one hand and on the other hand simple chronic catarrhal or chronic purulent endometritis and obstructive dysmenorrhea is set forth by F. FRANKE (*Zeitschr. f. Geburtsh. u. Gynäk.*, 1901, B. 45, H. 3). In the former conditions the old surgical law is well established and obeyed, that free evacuation must be had and complete drainage maintained. In all the forms of endometritis free evacuation and complete drainage are the rational indications, because retention here means threatened or actual extension to the adnexa. In obstructive dysmenorrhea it is the very fact of the existence of an obstacle to the outflow of the blood and the clots which causes the pain. Franke seeks to apply the surgical law cited above to these gynecological conditions by inserting a rubber drain-tube into the uterine cavity well within the internal os, but not up to the fundus. Contact between the tube and the fundus, would result in troublesome contractions. After dilatation, which must be deliberately done, the tube is threaded over a sound and thus passed in. It is retained in situ by a couple of threads lightly caught in it and in the cervix uteri. Its bore must be free, to permit ready drainage, and its walls thick enough to be resistant. It can be retained in situ until the stitches cut through, under the usual precautions of antiseptic vaginal douches, and then replaced. Confinement to bed over the first few days is not essential. When a stenosis exists Franke resorts to twelve or fifteen small incisions around the entire periphery of the cervical canal, which permit of spreading without tearing and in healing are covered with mucous membrane, not scar-tissue and therefore do not contract again, perhaps to a higher degree than before the operation. In the cases he reports (two) results were permanent and without retrogression at the end of a year or more.

Tuberculous Rheumatism.—Various pseudorheumatic arthritic conditions are recognized in association with gonorrhea, scarlatina, typhoid fever, measles and diphtheria. Poncet proposed to classify as "tuberculous rheumatism" similar conditions due to tuberculosis. According to M. MAILLAND (*La Presse Med.*, Sept. 14, 1901), the term does not apply to ordinary cases of cold abscess in which the lesion is destructive, but relates to irritative conditions, of fibrinoplastic tendency, analogous to those of infectious pseudorheumatism, and clinically including forms which simulate every variety from simple arthralgia to complete ankylosis. The administration of salicylates is a waste of time in "tuberculous rheumatism." It should be remembered that in pseudorheumatic arthritis the maximum of pain is felt at the level of the joint itself, while in true rheumatism the painful spots are rather periarticular. In the presence of pseudorheumatism tuberculosis should be thought of, care being taken to exclude gonorrhea and acute infectious diseases as causative agents.

Otitis Media and Aphasia.—With the success of neurologists in fixing the various cerebral centers arises the relation between such centers and their connections on the one hand and on the other hand various diseases. No disease is any more significant than left otitis media purulenta, in the view of W. MERKENS (*Zeitsch. f. Chir.*, Aug., 1901), in its bearing upon speech-center disturbances. The chief considerations he sums up as follows: Abscess of the temporal lobe secondary to otitis media purulenta which causes speech-disturbances is only exceptionally a lesion of the true centers of speech. As a rule the interruption is only of the association fibers. First in frequency come those fibers which connect the sound-picture-center with the true perception-center. More rarely the break is between the sound-picture-center and the writing-center. The so-called optic aphasia belongs really under the head of psychical blindness and not to true aphasia, *i.e.*, speech-center disturbance. Temporal lobe abscesses often involve the life of the patient, hence early diagnosis and correct localization are essential. No symptom is more important than signs of aphasia, but these must be unmistakable in themselves and directly an issue of the disease. The surgeon must determine whether the speech difficulties began definitely with the other symptoms of the disease or were directly associated therewith. The first important feature is whether the patient can give undisturbed utterance to his own concepts and perceptions by always readily and precisely selecting and uttering the suitable words. This is most of all important with reference to the expression of his own subjective mental processes. Next, he must test the subject's understanding and reception of loudly spoken language. Finally he is concerned with the reception, understanding and expression of writing. If disturbances of the writing-center are present and especially if psychical blindness is associated with it the site of the abscess is probably rather posteriorly situated in the temporal lobes.

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SATURDAY, OCTOBER 26, 1901.

THE SMALLPOX PROSPECT.

Recent reports of the United States Marine-Hospital Service show that, so far as smallpox is concerned, we are about to enter upon the colder weather in this country under unfavorable conditions. Smallpox is recognized generally as almost exclusively a winter disease. The advent of warm weather almost always brings with it a marked reduction in the epidemicity of the disease and often summer completely obliterates it even where it has been raging with special virulence. Whether cold actually fosters the growth of the smallpox germ, while warm weather inhibits it, can not be definitely determined until the microbic cause of the disease is isolated. There are those who insist that the real factor in the increased virulence of smallpox in winter depends on nothing more than the fact that the poor, among whom smallpox is especially prevalent, live closer together and with less ventilation in cold weather.

Ever since the Spanish-American War and, as pointed out by Dr. Nevins Hyde in a recent number of the *Popular Science Monthly*, as a direct consequence of it, we have not been without a disquieting number of smallpox cases in this country. Each winter for these last three years has seen the disease acquire virulent form. Each summer has seen considerable diminution of virulence. At the beginning of winter for three years past there have always been enough scattered foci of smallpox to insure the wide spread of the disease during the cold months. The reports of the disease for the present autumn, far from being exceptional in this respect, are distinctly alarming. The smallpox scare of last year led to the vaccination of a large part of the population, but the disease still finds susceptible subjects in abundance. In very few parts of the country do the Marine-Hospital statistics show a less number of cases during July, August and September than during the corresponding period of last year.

This incidence of smallpox is not localized in the parts of the country distant from large centers of population, where the absence of public health regulations and legal quarantine might be thought to account for the prevalence of the disease. New York, Massachusetts, Ohio and Indiana show the existence of a number of cases of the disease and most of them are situated in large cities. Wisconsin, Minnesota, Colorado and Kansas, on the other hand, report large numbers of cases mainly from country districts. Louisiana and Texas are the only two States that show notable decreases in the number of cases of smallpox reported since July 1, 1901, when compared with the corresponding period of last year. The total number of cases reported to the Marine-Hospital authorities for these last four months throughout the country is nearly 10,000. During the corresponding months of last year the total number of cases was only a little over 4,000. With the unfavorable weather just opening up the prospect thus disclosed is not pleasant. It is true that some of the cases that help to swell the total in these reports occurred before the summer months, but this does not impair the comparative significance of the totals for the corresponding periods of the two years. If the vastly smaller number of cases reported last year foreboded, as we stated at the time, a serious outlook for the winter months, then the latest reports are indeed ominous.

Not a few of our Eastern cities report smallpox even during very recent weeks. The danger should be frankly faced and the general population safeguarded. Now is scarcely the

time to discuss the value of vaccination. That has been proved according to the best judgment of the vast majority of the serious scientific medical men of the world. Every possible means should be taken to secure universal vaccination.

As to vaccine virus a word of warning seems necessary. Only vaccine material of recognized quality should be employed and the physician should assure himself as to its source and the grounds for considering it of genuine efficacy. There is no doubt that some of the opprobrium cast upon vaccination and some support of the pretention of its inability to protect against smallpox has been due to the use of inefficient vaccine material. Another word of warning as to the condition of the tenement-houses in densely populated centers seems called for. Here it is in the crowded living-rooms of the poor that smallpox finds its favorite breeding-place. Here it acquires during the cold days, when ventilation is sacrificed to warmth, the virulence that gives it power to spread even in the houses of the well-to-do. From here especially come the school-children and the workmen who distribute the disease to many others. Present conditions cannot be changed at once, though fortunately the trend of modern rational philanthropy is in the direction of fundamental reform, in this matter. Special vigilance, however, can secure if not immunity from the disease at least freedom to a great extent from its most serious dangers. Now that smallpox is known to be imminent it will be criminal if foci of it through medical oversight or carelessness of boards of health are allowed to develop to dangerous extent before being properly recognized and broken up. We earnestly trust that our own New York City Board of Health will prove itself more capable in this regard during the coming winter than during the past.

NEW YORK STATE MEDICAL ASSOCIATION.

THE eighteenth annual meeting of the New York State Medical Association has continued the good work of recent years very creditably and has emphasized the renewed interest that the profession of New York City and State are taking in the local branch of the American Medical Association. To those who remember the small attendance at association meetings in Mott Memorial Hall only three years ago the present well attended sessions are a pleasant surprise.

This increased attendance deserves all the more to be a subject for congratulation as it doubtless portends the narrowing of the breach that has kept New York State from having and wielding her immense influence for the benefit of the medical profession in the national association.

The scientific program of the present session comprised some very interesting and practical features. Dr. Deaver's paper on appendiceal fistula with its warning that such unfortunate sequelæ are always due to delay in operating, aroused the usual discussion as to the possibility of ever treating the condition medically. It is evident that there are now but few even of general practitioners who have any confidence left in the power of remedial measures other than surgical to bring any lasting relief in appendiceal conditions. The symposium on cancer brought together a most interesting and suggestive collection of papers on this important subject. Dr. Blumer's review of the present status of the parasitic theory of cancer was a masterly bit of critical medical literature. Dr. Ewing's critique of statistics of cured cases of cancer that do not include details as to the previous clinical course of the tumor and the histological elements of which it was composed deserves widespread attention. The application of its suggestions would inaugurate a new and promising era in the clinical study of cancer. The symposium on arteriosclerosis presented very succinctly and practically the main features of an increasingly interesting condition.

In general the meeting was a very representative gathering of men of many minds in medicine. The program suffered somewhat in general interest perhaps because of the great preponderance of papers on surgical subjects. On this occasion of forty-eight papers a scant dozen were medical in character. The fault is of the times rather than the committee but its recognition and correction even to a limited degree would certainly be welcomed by the mass of attendants at medical meetings.

The dinner of the Association this year was made a very taking feature by an excellent toast list. The committee of arrangements deserves congratulations on their successful management of the details of the meeting. The association itself begins the new century with a very promising exhibit of union and strength.

RULERS AND THEIR MEDICAL ATTENDANTS.

"UNEASY lies the head that wears a crown." Uneasier still would seem to be the fate of those whom Fortune, with roseate promises of

fame and future success, picks out in emergencies to do surgical service for wounded or dying rulers. The experience of the last twenty years would justify a special invocation in the medical man's litany, "From attendance on persons in high political position, spare us, O Lord.'

The conditions in President Garfield's case were most sad. Only one of the attendants on the dying President is still alive. It does not seem too much to say that the lives of all of them were shortened by the worry of responsibility and the carping of popular misunderstanding. Their state of mind during their attendance on the President was anything but enviable. After his death their fees for service were disputed, criticized, delayed in Congress and finally paid most grudgingly. The practice of the chief attending physician was ruined and after a previous career, full of the greatest promise, he died almost in actual poverty.

The case of the Emperor Frederick of Germany, only a few years after President Garfield's death, was a repetition of the ungracious treatment of the medical men. There is no doubt that Sir Morel Mackenzie's life was shortened and its closing years tinged with bitterness because of the envious, contemptuous criticism that followed the Emperor's death. There were not wanting critics in France after President Carnot's death, a few years later, who did not hesitate to say that his life might have been saved or at least prolonged by more radical surgical intervention than was attempted. This, too, notwithstanding the fact that wounds of the liver, such as existed in President Carnot's case have always been considered as inevitably fatal.

It is not surprising, then, that the surgeons who attended our late President should be in no enviable position. The sad reflection with regard to all these cases is that the main part of the obloquy that falls upon inevitable results is due to the unthinking criticism of brother surgeons. Men who should realize sympathetically all the difficulties of the trying situation are the first to find fault with methods and details of treament of which everyone well knows they can understand very little at a distance. The critics are not so much the recognized quacks of surgical practice, for their opinion would have but little popular weight and no professional sting. It is supposedly reputable surgeons who assume an impossible omniscience *in distans*. Surely it is not too much to hope that progress in surgery and in culture, in ethical gentlemanliness and in brotherly fellowship will raise the medical profession above these lamentable persecuting methods. Medicine and even surgery, notwithstanding recent scientific advances, still remain arts and not true sciences in their practical applications. Failure of purpose, as the attainment of the ideal in any art, must remain inevitable under many circumstances. The last to condemn this sad incompetency of human effort should be those whose training fits them best to understand the liability to failure that the complexity of surgical and medical problems involves and whose personal experience has taught them that the most exhaustive knowledge of conditions does not guarantee against personal fallibility in what has been from earliest medical history and will remain the most difficult of all problems for the medical attendant—the question of prognosis.

The present lesson bears with it its weight of warning, however, not only for the medical attendants on those in high station, but for all however humble their conditions. There has always been and there persists a too great tendency to criticize "the other doctor" commonly on insufficient grounds. It is easy to criticize where all the conditions are not known and such criticism is not only unworthy but often eminently shallow and mistaken. The broader the mentality, the less the tendency to this thoughtless, merely carping criticism. Let us hope that the breath of culture that comes with more liberal education will bring an end to this undesirable state of affairs before the close of our generation.

A CHAIR CF SYPHILIS AND WHAT IT SHOULD MEAN IN OUR MEDICAL SCHOOLS.

Owing to the protean character of specific manifestations the habit of giving iodide and mercury "when in doubt" is very widespread among the profession. And it is probably better that several innocent persons should be mercurialized in this tentative fashion than that one luetic should be deprived of the benefit of specific remedies, but is it not a somewhat sad commentary on the so-called progress of medical science that the sum total of our knowledge regarding syphilis and its multiform lesions in skin and bone, viscera

and nerves, apparently is not sufficiently advanced to enable us at times to differentiate sharply between what is syphilitic and what is not?

Nearly every physician of even a few years' practice comes by hard experience to discover in what widely different ways the virus may make its presence known, but the acquisition of this knowledge involves the loss of valuable time and often the infliction of irreparable damage to the people who entrust themselves to his care. This infliction of damage we allege, of course, in a purely negative sense; referring to cases which, from ignorance merely, are allowed to progress from a frankly syphilitic to a para- or metasyphilitic—probably incurable—stage.

It sounds well to speak of tuberculosis and syphilis as the two great scourges of the human race, as in sad truth they are, but is there no better way to prepare men to cope with them than that now in vogue in our schools of medicine? With regard to syphilis we are decidedly of the opinion that there is.

The teaching of syphilis should not be a side issue in any medical curriculum. At present the student gets a little knowledge of it here, a little there and no very connected ideas of it anywhere. The avoidance of this not very praiseworthy condition of affairs calls for a concentration of knowledge. We suggest that the chair of syphilis should be exalted in our schools to the level and dignity of those which are now considered of paramount importance, and the man who would teach syphilis should know his subject root and branch. He should be as thoroughly familiar with its manifestations in brain and cord as in skin and bone, as a matter of fact—from the standpoint of importance—even more so.

To fill such a chair would require an exceptional type of mind, together with a peculiar training, and yet a kind of training that ought to appeal powerfully to a man who wished to advance the clinical side of medicine in a way fittingly analagous to that now adopted in pathology or bacteriology, for example.

Such a man must, to begin with, train his visualizing powers to a high degree, so that he may be able easily to evoke from his visual storehouse control pictures, so to speak, for contrast with what he has before his eyes in a given case. Furthermore, his knowledge of human nature must be intimate and far-reaching, his powers of observation nearly perfect. His preliminary clinical training should be general. With this he must acquire an intimate but selective knowledge of pathological processes, that is, a knowledge of the general and local workings of the poison of syphilis. And it goes without saying that his work in the pathological laboratory should cease only with his life's labors.

After his preliminary clinical training he should branch out into the at present somewhat narrow specialties of eye and ear, nose and throat, skin and nerves. From each of these he must glean everything which has an essential bearing upon his subject. To do this, time is the only requisite for the right man, and no greater time than we now give to the training of a pathologist or bacteriologist in the most limited sense of the terms.

With this broad training once attained, where can such a man find a place to put constantly into practise the knowledge he has acquired? Unfortunately we have no great hospital for syphilis like the St. Louis of Paris; and no city or general hospital could give to any one person the facilities which our ideally-trained man requires. In our judgment the most desirable places in the country for such practice are the great almshouses, many of which have already attained to the dignity of hospitals. Here one sees the scum of civilization, victims, to a large extent, of their own vices. Here syphilis flourishes and here it may be studied to the heart's content in every form under which it is known to make its hideous appearance.

It is in an institution of this sort that our professors of venereal disease should get their clinical experience, rather than in a dermatological out-patient department or in a surgical clinic.

Finally, when the happy time comes that the chair of syphilis is considered of tantamount importance to the others we have mentioned, and when it is occupied by a man trained as we have suggested, then and then only will students go away from our medical schools with an adequate appreciation of and ability to cope with a disease which, of all the ills the flesh is heir to, is the most virulent, insidious and deadly.

ECHOES AND NEWS.

NEW YORK.

Journal of Physical Therapeutics.—This new quarterly international review is to have an American editor in the person of Dr. Margaret A. Cleaves.

Electrotherapeutics.—This is the title of a new monthly journal to be devoted to the study of medical electricity and radiography. Dr. W. B. Snow is to be its editor.

The Craig Colony Prize for Original Research in Epilepsy.—Dr. Frederick Peterson of

New York offers a prize of $200 for the best original unpublished contribution to the pathology and treatment of epilepsy. Originality is the main condition. All manuscript should be submitted in English. The prize is open to universal competition. Each essay must be accompanied by a sealed envelope containing the name and address of the author and bearing upon the outside a motto or device, which is to be inscribed also upon the essay. All papers received will be submitted to a committee, consisting of three members of the New York Neurological Society, and the award will be made upon its recommendation at the annual meeting of the Board of Managers of the Craig Colony, October 14, 1902. Manuscripts should be sent to Dr. Frederick Peterson, 4 West Fiftieth street, New York City, on or before September 30, 1902. The successful essay becomes the property of the Craig Colony and will be published in its medical reports.

New York Academy of Medicine.—On Monday evening, October 21st, the Section on Ophthalmology held its first regular meeting. Dr. J. E. Weeks exhibited specimens of neuroma of the retina. Dr. A. Schapringer presented a case of amblyopia from inhalation of wood alcohol and Dr. H. H. Seabrook, a case of a peculiar neoplasm of the bulbar conjunctiva.

On Wednesday, October 23rd, the Section on Laryngology and Rhinology met. Dr. H. Holbrook Curtis read a paper on the "Early Appearances of Laryngeal Tuberculosis."

On Thursday evening at the meeting of the Section on Obstetrics and Gynecology, Drs. S. Marx, L. T. Lazinski and A. Brothers, presented specimens. Dr. S. W. Bandler read a paper on the "Etiology, Histology and Usual Course of Ectopic Gestation." This was discussed by Drs. E. H. Grandin, Bache McE. Emmet, S. Marx and others. Dr. C. P. Noble of Philadelphia then read a paper on "Extra-Uterine Pregnancy."

The following candidates for resident fellowship in the Academy were recommended for election: Drs. Fielding Lewis Taylor and Anna Wessels Williams.

PHILADELPHIA.

Leper in the City.—The ailment of Wing Ting Sing, a Chinese laundryman, has been pronounced leprosy and he has been placed in the Municipal Hospital. The disease first manifested itself in July, but only lately was its true nature revealed.

Foreign Surgeon Entertained.—Dr. Ernest Laplace gave a dinner of twenty-six covers at the Art Club October 17th in honor of Dr. Henri Hartman, the noted Paris surgeon, who is visiting the clinics of this city. The guests included the prominent surgeons of the city.

Smallpox.—For the week ending October 19th there were 69 new cases and 10 deaths reported, an increase of 9 cases and 8 deaths over the previous week. Dr. Martin, a well-known physician of Frankford, is suffering from the disease. Camden is building a temporary municipal hospital, 20 by 70 feet in size, in which to care for smallpox patients.

News From the Colleges.—The attendance thus far at the University of Pennsylvania, Medical Department, is 537, a slight decrease from last year. The freshman class is larger, however, showing a gain of 22 per cent. The Department of Dentistry also shows a decreased attendance. The course is to be lengthened to four years. A gratifying fact is the increase in college graduates among the matriculates, fully one-third of the medical freshmen possessing degrees.—Jefferson at present has a registration of 640, a substantial decrease from last year's figures.

Obituary.—Dr. Charles H. Voorhees, who died October 19th from apoplexy, was for many years a practitioner at Flushing, Ohio, where his practice was worth $30,000 per year. Of late years he has been attending traveling invalids, which capacity brought him to this city about one year ago.

Indiscriminate State Aid to Charities.—A feature of the recent State Convention of the Directors of the Poor and Charities of Pennsylvania at Altoona was the address of Cadwallader Biddle, of this city, General Agent of the Board of Public Charities of Pennsylvania. After giving the early history of State aid for hospitals and the springing into existence of new institutions tempted by the bait of State aid, he said: "The most serious act of all was that passed in the last session of the Legislature, by which the State accepted the Lackawanna Hospital in Scranton as a State institution and assumed the entire cost of operating it. Already inquiries are being made from every section of the State asking how this was accomplished and intimating that at the next session similar acts will be introduced for very many of the existing institutions. What argument can be raised against this? If the State maintains a general hospital in one section, should it not do so everywhere? All its citizens should be treated alike. This is equally true of orphan societies, homes for friendless, etc." Mr. Biddle's remedy is to treat hospitals for the sick and injured as those for the insane. When they have not a sufficient income from private sources they should be allowed for each patient a fixed amount from the State. The theory that the State must become the mainstay of every charitable institution is extremely pernicious and misleading. The limit of abuse in the distribution of State favors to charitable institutions has been reached when those which are not receiving sufficient local support pass into the absolute ownership of the State.

Licensing Nurses.—In an editorial the *Press* states that the formation of State Nursing Councils, as urged by Mrs. Fenwick, is indispensably necessary. After mentioning the discrepancies in the length of course, entrance requirements, and methods of training in the various hospitals of the city and the injustice to patients and physicians caused by inadequate training, it says: "In time these things right

themselves, because the young women who are so unfortunate as to attempt a short cut into the work of nursing discover after a few years that, while the nominal pay is high, the time for which a nurse insufficiently equipped is wanted is so short that the average wage of such a nurse will be considerably less than that which she would earn behind a counter. But in nursing, as in medicine, the State ought to step in and provide a State Nursing Council and establish rigid qualifications which would give a license precisely as is done in medicine."

Death of a Pioneer Woman Physician.—Dr. Hannah E. Longshore, the first woman to practise medicine in this city, died October 18th at the age of eighty-three. She was one of the ten members of the first graduating class of the Woman's Medical College of Pennsylvania and was for a time demonstrator of anatomy in that institution. When she put out her sign as a medical practitioner she met with sneers and ridicule. Male physicians refused to consult with her, druggists refused to fill her prescriptions, and teachers in the public schools instructed their pupils not to walk with Miss Longshore "because her mother was a 'woman doctor.'" But her practice increased to such an extent that after forty years of activity she retired with a modest fortune, it being said that her practice was larger, with one exception, than that of any other woman physician in the United States.

CHICAGO.

Diphtheria.—The spread of diphtheria in the Humboldt Park district still continues, but the diphtheria mortality remains remarkably low, owing, it is believed, to the general and intelligent use of the antitoxin by Chicago physicians.

Officers of the Chicago Gynecological Society.—At a meeting of this Society, held October 18, 1901, the following officers were elected: President, Dr. L. E. Frankenthal; First Vice-President, Dr. A. H. Ferguson; Second Vice-President, Dr. Junius C. Hoag; Secretary, Dr. William H. Rumpf; Treasurer, Dr. Emil Ries; Pathologist, Dr. M. L. Harris; Editor, Dr. Charles S. Bacon.

Chicago Surgical Society.—At the annual meeting, held October 17th, the following officers were elected: President, Dr. Christian Fenger; Vice-President, Dr. John B. Murphy; Secretary, Dr. A. E. Halstead; Treasurer, Dr. D. N. Eisendrath; Council, Drs. E. Wyllys Andrews, John B. Murphy, and L. L. McArthur.

Chicago Medical Society.—At a meeting held October 16th, Dr. William J. Butler showed an interesting case of congenital heart lesion in a boy, seven years of age. The apex of the heart was seen while the child was in the erect position in the fifth interspace, inside and extending to the mamillary line. Palpation confirmed this location of the apex, and one feels not only the heart impulse, but also a systolic thrill which becomes more pronounced toward the base, reaching the maximum in the third interspace over the second rib and in the second interspace close to the sternum. On percussion the upper border of the heart begins in a relative dulness in the second interspace, which becomes absolute from the fourth rib. The right border of the heart is found two fingers' breadth to the right sternal border. On auscultation from apex toward the base a loud, rasping systolic murmur is heard obscuring the first sound. This murmur reaches its greatest intensity in the third interspace over the second rib, and in the second interspace to the left of the sternum, coinciding perfectly with the localization of the systolic thrill. The murmur is transmitted in every direction and heard over the back. The second sound is distinctly heard over the entire heart. The most interesting feature of the case, and the one which would, without examination, cause doubt as to the diagnosis made, is the absence of cyanosis. The author is convinced that cyanosis is not a necessary factor in the diagnosis of such cases. The author has seen six congenital heart lesions in the past five years. The three first cases were all pulmonary stenosis. One of them was intensely cyanotic. Another suffered from chronic stasis, and presented a cyanotic icteroid hue. The third case was a pale-faced girl of seventeen years. The mucosæ were slightly cyanotic. Of the cases seen here, one was a mitral and aortic lesion, the postmortem examination having been made by Dr. Hektoen, and the case reported by Dr. Cotton. The other two, of which this is one, were pulmonary stenosis. The first case was a pale-faced lad of eleven years, who appeared at the clinic two years ago. This boy died later. A postmortem examination was made and confirmed the clinical diagnosis.

Fears the Spread of Smallpox.—Chief Medical Inspector Heman Spalding is watching the development of smallpox in the outlying towns. He has made personal visits to Michigan City, Ind., and Harvey, Ill., where the disease exists, and has secured the cooperation of authorities in those towns to prevent its spread. Health Commissioner Reynolds fears some trouble with smallpox this winter, because of its prevalence throughout the country. He is therefore taking all possible precautions to prevent its advent in Chicago.

To Examine the Brain of Frank Collier.—It is said that pathologists throughout the country, as well as anthropologists and the medical profession generally, are awaiting with special interest the examination of the brain of the late Frank Howard Collier, the attorney whose death at the Cook County Hospital last August followed several years of intermittent attacks of insanity, traced to a blow on the head received during a political campaign. The brain will be examined by Drs. Ludwig Hektoen, E. C. Fortner, E. R. Le Count, and E. M. Brown. It is now in the laboratory of Rush Medical College, and the result of the examination will be announced at as early a date as practicable. Professor Starr, the anthropologist of the Uni-

versity of Chicago, will also watch the investigation, and make a report in regard to the case.

To Lay Cornerstone of Hospital.—There were elaborate exercises and a great parade of Catholic societies Sunday, October 20th, at the laying of the cornerstone of St. Anne's Hospital, an institution for consumptives to be erected by the Sisters of St. Elizabeth's Hospital. We have already referred to this hospital in previous issues of the Medical News. When completed, the hospital will cost $150,000. Although it is built by Catholics, patients of any religion will be admitted to its wards, and if unable to pay a fee the treatment will be gratuitous. Bishop Muldoon officiated at the exercises.

Surgery of Pulmonary Abscess, Gangrene and Bronchiectases Following Pneumonia.—At a meeting of the Chicago Medical Society, held October 9th, Dr. Daniel N. Eisendrath contributed a paper on this subject. After going into the literature in a very exhaustive manner, he drew the following conclusions: (1) Both acute and pulmonary abscess and gangrene following pneumonia may develop immediately, and chronic and simple putrid abscesses, with or without bronchiectases, are more remote sequelæ of both croupous and influenzal pneumonia. (2) The most valuable points in the history are the etiology; the sudden expectoration after an apparent crisis of pure non-odorous pus in the simple abscess cases, or of fetid pus in the gangrenous variety. In the chronic cases there is usually a history of a pneumonia having preceded the condition at some considerable time previously, followed by expectoration of large quantities of pus, with exacerbations of fever, accompanied by emaciation and frequently clubbed fingers, etc. (3) Signs of cavity are seldom present. The moist râles, especially of large metallic character, are the most reliable physical signs. The character of the sputum is also of great value, whether purulent or fetid. Elastic fibers are more frequently found in gangrene than in abscess, being comparatively rare in the latter. (4) The X-ray is only of confirmatory value, as it shows chiefly thickened areas of lung, and should not be absolutely relied upon. When it shows a shadow at the same point where the physical signs are present, it is of value. (5) The prognosis of abscess and gangrene following pneumonia, medically treated, is not very favorable. Many cases of both varieties can be successfully treated in a surgical manner by pneumotomy. One of the greatest difficulties is the exact localization of the focus. The statistics which I have gathered show a marked increase in the percentage of recoveries, especially in the cases which have been reported within the last five years, over that of the preceding five or even ten years. The prognosis for the chronic cases is not so favorable. The patients are usually operated upon when in an emaciated condition, and the walls of the cavity are often rigid, so that they do not contract well after being drained, and the free communication of a bronchus with such cavities is also a great barrier. But statistics in this variety are also improving, especially when combined with excision of the affected portion of the lung.

Typhoid in Chicago.—The weekly bulletin of the City Health Department, issued October 14th, calls attention to the unusual prevalence of typhoid fever throughout the country. Commissioner Reynolds urges increased caution in diet and in the use of untreated hydrant water by the young and non-immune, and calls upon physicians to have the diagnosis of the disease confirmed by bacterial examinations in the department laboratory. These examinations, he states, will be made and reported upon promptly by telephone without charge. Typhoid fever is more prevalent in Chicago than it has been at any previous time since the Health Department began to make records. The record here shows that the typhoid mortality for the past three months is four times what it was during the corresponding quarter last year. In the record of typhoid mortality, Chicago for the third quarter of the (July, August, and September) year shows an increase of 273 per cent. over that of the first six months. The average autumnal increase in this region is about 70 per cent., so that Chicago's full increase this year is very nearly four times greater than usual. There is no obvious local cause during the third quarter for this excessive increase. It is true that the first six months of 1901 were dryer than usual. Up to the close of June there had been 5.4 inches less rain than the average since 1871, and the ground water was correspondingly lowered. But it is not yet conclusively proved that the stage of the ground water affects the prevalence of typhoid, and it is less likely that it should do so in Chicago, with its water supply direct from the lake. Finally, the exhaustive studies of the department fail to reveal any connection between this increase and either the milk or the ice supply of the city.

Chicago Academy of Medicine.—At a meeting, held October 11th, Dr. W. G. Stearns reported an interesting case of fracture of the inner table of the occipital bone with cerebral concussion and contusion involving the base of the temporo-sphenoidal and frontal lobes. Dr. L. E. Schmidt spoke on the necessity of a clear diagnosis in operations on the prostate.

GENERAL.

Medical Society of City Hospital Alumni, St. Louis.—The Society met in the amphitheater of the City Hospital Thursday, October 17th. The following papers were read: The Bladder in Its Relation to Pelvic and Abdominal Surgery, by T. C. Witherspoon; Report of a Case of Appendicitis in a Patient Having Transposed Viscera, by W. C. Mardorf.

Malaria and Cancer.—According to press despatches, injections of malarial blood as a cure for cancer are proposed by Professor Frederick Loeffler. Finding that amid trop-

ical conditions most conducive to malaria cancer is of extreme rarity, he was led to the conclusion that when malaria is administered as a therapeutic it acts as a antidote to cancerous disease. What he calls the remarkable infrequence of cancer among negroes in the United States and other African populations is cited as one of the chief supports for his theory. In an interview he is reported to have said: "Realizing that malaria is capable not only of infecting the human system, but occasionally of counteracting the ravages of other diseases, the idea occurred to me of attacking cancer by the aid of malarial poison. It is established that malaria, when artificially produced by hypodermic or internal injections of the blood of malarial patients, can be arrested by prompt administration of quinine. Accordingly, I suggest the inoculation of cancerous persons either with mosquito poison or the blood of patients afflicted by other malarial infections. Previous attempts to cure cancer through vaccination with infectious substances have not only been crowned with little success, but have been accompanied by great danger, because of inability to control the antidote. In tropical lands where malaria flourishes cancer is seldom known."

Curious Death.—The doctors in Vienna, according to the daily press, have been made interested in the case of a young man, twenty-three years old, who has just died after a six months' painful illness, which puzzled the physicians, including German specialists. Shortly before his death his ailment was diagnosed as the result of the hatching of eggs of a blue bottle fly, which the patient had swallowed, causing perforation of the intestines. The sufferer was then too weak to undergo an operation. An autopsy confirmed the diagnosis. Part of the large intestine was riddled.

Ohio Valley Medical Association.—The following invitation is given by this society:

" 'The time has come, the doctor said,
To talk of many things:
Of bugs and bones and cases rare,
Of babes and other things.'

"Know All Ye Disciples of Esculapius by These Presents:

"That on the eleventh and twelfth days of the eleventh month, in the year one thousand and nine hundred and something or other, in the city of Henderson, State of Mint Julips, otherwise known as old Kaintuck, on the banks of the Ohio, and near several other Banks, there will be convened an assembly of practising doctors, that is, they are always ready to practice, *nolens volens,* at the bar, table, or at the bedside: whether it be to help make the issuance of Leah's fruitful womb painless, or to demonstrate the dissection of spring chickens; and as the story goes, they will meet together for the purpose of mutual pleasure and improvement. We purpose to have a good program on subjects of scientific nature, by practical physicians, who have toiled through the Wilderness of Endeavor, toward the Promised Land of Success.

"It was the historian Froude who wrote, 'The knowledge that a man can use is the only real knowledge; the only knowledge that has life and growth in it and converts itself into practical power. The rest hangs like dust about the brain or dries like raindrops off the stones.' The object of the founders of this Association was to create a live, practical organization of working physicians. The success of their effort has been proven in the past three years, for Know Ye, by this Greeting, that this Association is now in its third or tertiary stage, having been delivered at Sturgis, Union county, Kentucky, in August, 1898, and has now merged from twenty members to nearly two hundred. Has passed through the stage adolescence, and on the 13th of May, 1901, was raised to the third degree, and ordained, specified, rechristianed the "Ohio Valley Medical Association." You are cordially invited to attend and take part in the proceedings."

Ohio Valley Medical Association.—Partial program is as follows: Treatment of Pneumonia, Douglas C. Ramsey, M.D., Mt. Vernon, Ind.; Modern Surgery of the Gall Bladder, by H. Preston Sights, M.D., Paducah, Ky.; Clinical Microscopy, Its Value and Limitations in Private Practice, by Charles W. Hartloff, M.D., Evansville, Ind.; Plastic Surgery of the Face, by M. F. Coomes, M.D., Louisville, Ky.; Puerperal Convulsions, by T. J. Townsend, M.D., Owensboro, Ky.; A Few Things I Know, by Henry T. Dixon, M.D., Evansville, Ind.; The Endometrium, J. A. Humphrey, M.D., Henderson, Ky.; Treatment of Infected Wounds of the Hand, by Horace Whitacre, M.D., Cincinnati, Ohio; Carcinoma of the Breast, by Robt. H. Moss, M.D., Niagara, Ky.; Inguinal Hernia: Bassini's Operation for Radical Cure: Report of Cases, by W. A. Quinn, M.D., Henderson, Ky.; A Further Study of Strontium Salts, by Leon L. Solomon, M.D., Louisville, Ky.; Medical Treatment During Period of Adolescence, by S. S. Amerson, Sullivan, Ky.; On Pediatrics, by C. C. Lewis, M.D., Owensboro, Ky.; A Few Practical Points on the Diagnosis and Treatment of Syphilis, with Lantern Slide Illustrations, by M. L. Heidingsfeld, M.D., Cincinnati, Ohio; A Plan of Campaign, by W. J. J. Paris, M.D., Marion, Ky.; The Use of Normal Salt Solution, by C. H. Todd, M.D., Owensboro, Ky.

Assistant Surgeon at the Freedmen's Hospital.—The United States Civil-Service Commission invites attention to the fact that the examination announced for October 29-30, 1901, to be held in any city in the United States where postal free delivery has been established, for the position of assistant surgeon at the Freedmen's Hospital, is postponed to November 12-13. (See MEDICAL NEWS, Sept. 28, p. 508.)

Longevity in the United States.—In line with a recent editorial on "Longevity and Life Insurance" in the MEDICAL NEWS, an editorial analysis of the recent Census Bureau Statistics given in the *New York Tribune* is of interest. "A bulletin has just been issued by the United States Census Bureau in which a comparison is made between the death-rates in this country for 1890 and 1900, and it may be confidently asserted that few statistics published by that branch of the government possess such a gratifying character. It appears that there was a falling off of nearly 10 per cent. in the proportion of deaths to population during the last decade of the century just ended, while the average age at which Americans now die is put at 35.2 years, as against 31.1 in 1890. A gain in longevity of 13 per cent is here indicated. At first the announcement seems a little incredible. The figures hold good, however, only for cities of eight thousand inhabitants or more, and hence are in one sense partial. It is doubtful if the improvement has been so rapid in the rural regions. Still, if the conditions of city life are here accurately represented there is certainly occasion for profound congratulation.

"Analysis of the bulletin here referred to shows, moreover, that 'the great white plague,' which for so many years claimed more victims than any other malady, no longer stands at the head of the list. The death-rate from consumption was 245.4 for every 10,000 persons in 1890 and only 190.5 in 1900. No other disease shows such a great falling off, although diphtheria and bronchitis, cholera infantum and the diarrheal disorders of adults, general debility and typhoid fever, closely approach it. For most of these changes it is easy to find some explanation in the improved sanitation of cities and greater painstaking with food and water supplies. But other influences have unquestionably operated in two instances. Consumption is now dealt with more effectively than ever before, because the fact that it is often curable is recognized. And Behring's antitoxin, which is scarcely ten years old, perceptibly restricts the ravages of diphtheria.

"Unfortunately, however, there are a few maladies which show an increased mortality. From pneumonia there were 191.9 deaths among every 10,000 people in 1900 and only 186.9 in 1890. The difference is slight, but it is sufficient to put this disease slightly ahead of consumption as a destroyer of human life. Here again it is not hard to find a reason for the change. It is scarcely a dozen years since what is now known as influenza invaded this country. The census bulletin shows that the deaths directly assigned to it rose from 6.2 in 1890 to 23.9 in 1900. But the effects did not stop there. Pneumonia is one of the most common sequels of the grip, and often begins its demands on a patient's vitality when the latter is already pretty well exhausted. Thus the chances of recovery are materially diminished. But for this new complication it is possible that pneumonia, like consumption, diphtheria and bronchitis, would show an appreciable falling off in its havoc.

"The other maladies the death-rate for which has grown to a notable degree are cancer, apoplexy and derangements of the heart and kidneys. So imperfectly is the origin of the first of these ills understood that it is difficult to conjecture why its activity has been enlarged. But one cannot avoid regarding the increased proportion of deaths from the other causes here referred to as indications that the high pressure life of cities is proving more exacting than ever before. Business and social demands, excitement of one form or another, high living and lack of exercise work out their legitimate results in spite of the best efforts of the doctors. Nor will the best of general sanitary measures make any difference with these particular disorders. Evidently if any check is to be put upon mortality from them the people must apply it themselves."

Gen. Sternberg's Report.—Surgeon-Gen. Sternberg, in his annual report to the Secretary of War, makes the following observation among others on the health of the army: "The health of the army must be regarded as having been unusually good during the calendar year 1900. The admission rate for all causes in the army, volunteers and regulars, with a mean strength of 100,389 in 1900, was 2,311.81 per 1,000 of strength, as compared with 2,178.06 in the previous year; but during the year 1899 only 39,280 men out of a total of 105,546 were serving in the Philippines, while during the past year 66,882 of a total of 100,389 were thus serving. This is an important point to remember in considering the sick rates of the two years. The death-rate in China was large, 47.76 per 1,000 of strength, 23.62 from disease, and 24.14 from injury. From the close of the calendar year 1900 to the latest reports, the health of the troops in the Philippines had been steadily improving. Smallpox, so prevalent and deadly in the early occupation of the islands, has been almost entirely suppressed. Dysentery, constituting 13.44 per cent. of all cases of sickness, is the dangerous disease. The health of the troops serving in Cuba was excellent during the year. The medical record of the troops in Porto Rico for the year 1900 is an excellent one, comparing favorably with that of troops serving at the home stations. Referring to alcoholism in the army, Gen. Sternberg says: "The steady decrease of late years in the admissions for alcoholism among the men of the Regular army is a matter for congratulation. Military officers may be said to be unanimous in their opinion that this was mainly the result of the establishment of a post exchange, or canteen, at military posts. There is less drunkenness among troops in active service than in a command doing garrison duty in time of peace. In the Philippines during the past year the admission rate for alcoholism among the volunteers was 8.68, and for regulars 12.41; for troops in China, 7.70. These statistics do not sustain

the newspaper reports of drunkenness among the troops in the Philippines. In fact, medical officers report the habits of the enlisted men in the Philippines as very much the same as in the United States." Dr. Sternberg is to be congratulated on this full and vigorous report.

Obituary.—Dr. Henry R. Rogers, one of Dunkirk's most prominent citizens and the oldest physician in Chautauqua County, N. Y., died at at his home in Dunkirk last week after a short illness. Dr. Rogers was born in Winslow, Me., in 1822, and was a graduate of the Jefferson College in Philadelphia. He became distinguished for his scientific investigations and his original views of matter and the laws which govern it have attracted the attention of scientific men. His theory was that all physical phenomena, without exception, are transformations of electrical energy. His articles on astronomy and physics have had a wide circulation both in the United States and Europe and have provoked much discussion. He was a member of the Chautauqua County Historical Society, the New York State Medical Society, the American Medical Association and the American Association for the Advancement of Science. He abandoned the medical profession some years ago to devote all his time to literary work.

Dr. Joseph Sanders died at Oil City, Pa., last week at the home of his sister, from typhoid fever. He was thirty-four years old. He was graduated in 1892 from Bellevue Hospital Medical College, and then studied at Heidelberg, Berlin, Vienna and Leipsic, where he made a specialty of the diseases of the nose, ear and throat. Since 1895 he had practised in New York, and at various times was officially connected with Bellevue Hospital and the New York University. At the time of his death he was assistant chief of the Nose, Throat and Ear Dispensary of Mount Sinai Hospital. He was a member of the Academy of Medicine, County Medical Society, and the German Medical Society, of this city.

Charles Henry Brown, M.D., for many years managing editor of the *Journal of Nervous and Mental Diseases,* the official organ of the American Neurological Association, and the New York, Philadelphia, and Chicago Neurological Societies, died October 15, 1901, in New York City. Dr. Brown was born in New York June 18, 1856, and has always been a resident of this city. He was a graduate of New York University, class of '79, in which he took the highest honors. Dr. Brown was a son of Dr. Henry Weeks Brown, who died in 1864, and a grandson of Dr. Stephen Brown, a well-known physician of early days in New York, a contemporary of Dr. Alfred Post and Martyn Paine. During his life Dr. Brown was connected with the New York Dispensary, the Post-Graduate, and the Presbyterian Hospitals and the outdoor work of Bellevue Hospital. He was a member of the New York Academy of Medicine, the County Medical Society, the American Neurological Society, and the New York Neurological Society. He had been a member of a number of the most prominent societies in the city. He is survived by a widow and two daughters.

CORRESPONDENCE.

THE ROCKEFELLER INSTITUTE.

To the Editor of the MEDICAL NEWS:

DEAR SIR: The Milk Commission of the Medical Society of the County of New York regret that in the report recently published a wrong impression was inadvertently conveyed which, in justice to the Rockefeller Institute and to themselves, they would like to correct. The Milk Commission during the past year has interested the dealers and the medical profession in certified pure milk, and in the furtherance of its aims has been permitted to use certain data gathered by special workers of the Rockefeller Institute in pursuit of an independent investigation of a wider scope which the Institute has undertaken. The data gathered for the Institute which the Milk Commission especially made use of in the report referred to was in part bacteriological; while the results of farm investigations and the observations indicating the co-relation of improved sanitary conditions of the dairies with improvement in the character of the milk were derived almost wholly from an investigation, as yet unfinished, which is being carried on by Dr. Belcher, under the auspices of the Rockefeller Institute.

HENRY DWIGHT CHAPIN, M.D.;
WALTER LESTER CARR, M.D.;
ABRAHAM JACOBI, M.D.;
JOSEPH E. WINTERS, M.D.

October 24, 1901.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

ABSCESS OF THE ANTRUM OF HIGHMORE—RAPID RECOVERY FROM ECLAMPSIA.

HERSCHEL, at the Verein der Aerzte in Halle A. S., June 5, 1901, read an exhausitve contribution on the subject of purulent inflammations of the antrum of Highmore. Anatomically the wall of the nasal cavities (outwardly) and of the antrums (inwardly) are identical and the hiatus semilunaris has two layers of mucous membrane, one on each bone surface and continuous one with the other. This arrangement accounts for the ready frequency with which this hiatus closes. Zuckerkandl found in fully ten per cent. of all cases that auxillary communications between the nose and the maxillary sinus are present. This fact must also be borne in mind in etiological and therapeutic considerations. Excepting occasionally pure trauma as the cause of disease at this point, all of the inferior diseases may present it as a complication, especially croupous pneumonia, typhoid fever, diphtheria, scarlatina, measles, influenza. Any ordinary

severe acute nasopharyngitis may extend directly into it and then pus supervene. Bacteriologically, all the germs characteristic of the above diseases have been found abundantly in the pus, and in addition streptococci in relation to facial erysipelas. Since erysipelas of the face commonly begins in lesions about the nose, it is fair to assume that in such cases it is the primary disease. Mechanically, these processes either extend directly or infectious material is forced into the antrum by hard blowing. Tooth-fangs may actually project into it or by a very delicate septum be separated from it. In either case a suppurating root may quickly infect the cavity. The processes are either acute or chronic catarrhal, and acute and chronic purulent inflammation, each with its own usual lesions and exudates. A hyperplastic type of the disease is also found, which may go on to the formation of cysts. In the more favorable purulent cases, the exudate is a muco-purulent one, in the less promising it is purely purulent which would go always with profound changes in the mucosa, such as polypi, cysts, ulcers, bone-caries, etc. Zuckerkandl claims that he has found true bone-changes far more rare than most rhinologists represent. Bone-plaques have been found in the cavity produced by a chronic periostitis and very likely the origin of the osteomata found in this cavity have at times the same origin. Rare but still rather common are profound bone-changes with necrosis and sequestration. The symptom complex is really most variable. Fever occurs with the acute disease and with exacerbations of the chronic form. Pain sharp and lancinating or dull and heavy is usually present, seated over the frontal process of the bone or in some of the teeth and due to irritation of the infra-orbital nerve. Occasionally by radiation and reference the supra-orbital nerve shows pain and one might think of empyema of the corresponding frontal sinus. In chronic purulent inflammation, we have the pain duller and usually more extended. Whether any causal relation exists between such inflammation and migraine is still not determined. Hyposmia and perversions and hallucinations of smell occur. The crucial symptom is the flow of pus especially forward out of the nostrils, usually colored with blood, intermittent or almost constant in flow, commonly fluid, often forming dirty scabs. Sometimes polypi change its course backward into the pharynx, or it reaches there through various auxiliary foramina. Thence the upper and later the whole respiratory tract may become involved and also the digestive apparatus. Ordinary sequelæ of the pus-flow are ulcers of the nasal mucosa, eczema of the skin about the nose, and later a putrid ozena with its usual scabs and scales. Later as ultimate nasal lesions we have hypertrophic rhinitic with the formation of polypi, especially about the bulla ethmoidalis and the processus uncinatus. Various minor and major, chiefly reflex disturbances of breathing have been seen, and twice in literature an obstinate drowsiness, yielding only to evacuation of the pus, have been reported. In the diagnosis of this disease it must not be forgotten that frontal headache may be due to it as well as to trouble in the frontal sinuses. Likewise in the so-called nervous headaches the cause may lie entirely in the antrum. The crucial symptom is of course the dribbling of pus into the middle fossa of the nose, namely the frontal sinus through its infundibulum, the antrum of Highmore through its foramen maxillare, and the anterior ethmoid cells. When the pus dribbles from the frontal sinus, as a rule its flow is most abundant when the head is held in the upright position. At this moment the foramen maxillare is the highest point, with reference to its floor. As soon as the head is bent far forward exactly the reverse occurs. The pus flows rapidly out of the antrum, but remains held in the sinus, because the foramen of the antrum becomes its lowest point and because the mouth of the infundibulum becomes its highest point. The best test for diagnosis is to drive a trochar and cannula through the nasal wall of the antrum close to the flow of the nose and then aspirate. Caution must be taken not to use too much force and drive the instrument out in to the cheek. When this accident occurs, as a rule healing without complications occurs. As a rare anatomical anomaly the antrum may be divided into an anterior and a posterior half. If one be empty and the other full of pus, aspiration will often then fail to find pus. The translucency test must never be forgotten, objectively it gives a loss of light in the affected cheek and subjectively the patient perceives no light on the same side. Expective treatment rests entirely with ice in local application and attention to the various symptoms. Carious teeth must always be removed. The nasal douche cautiously applied will keep the nose clean. When radical measures are needed, aspiration or other means of evacuation must be undertaken. The best are (1) through the osteum maxillare or any of the accessory foramina, (2) drilling through the alveolar margin in the socket of the second bicuspid or first molar tooth, (3) exposure of and entrance through the fossa canina.

SOCIETY PROCEEDINGS.

NEW YORK STATE MEDICAL ASSOCIATION.

Eighteenth Annual Meeting, Held at the New York Academy of Medicine, October 21, 22, 23 and 24, 1901.

FIRST DAY—OCTOBER 21ST.

BUSINESS MEETING.

The principal business was the election of officers for the ensuing year. The following gentlemen were elected: President, A. A. Hubbell of Buffalo; Vice-President, W. H. Biggam of Brooklyn; Secretary, Guy Lombard of New

York City; Treasurer, E. H. Squibb of Brooklyn; Chairman of Committee of Arrangement, Irving S. Haynes of New York City; Chairman of Committee on Legislation, E. E. Harris of New York City; Chairman of Committee on Library, J. W. S. Gouley of New York City; Chairman of Committee on Public Health and Medical Charities, Alexander Lambert of New York City; Chairman of Committee on Publication, Dr. J. Riddle Goffe of New York City; Delegates to American Medical Association: E. E. Harris of New York City; E. D. Ferguson of Troy; C. A. Wall of Buffalo; Chas. E. Quimby of New York City; H. O. Arrowsmith of Brooklyn.

SECOND DAY—OCTOBER 22D.

The *President,* John A. Wyeth, M.D., *in the Chair.*

Osteitis of Knee.—Dr. Wisner R. Townsend of New York City read the first paper, the subject of which was the correction of deformities following this condition. Dr. Townsend said that 50 per cent. of the cases of osteitis are followed by deformity where careful treatment is not pursued. The question is how to avoid the enormous number of almost useless limbs. All surgeons are agreed that there is no necessity for its occurrence, and that it is due either to faulty treatment, on the part of the surgeon, or failure of the patient to carry out the surgeon's direction. The amount of motion in a cured case will vary, but under the modern protective plan, the latest and best treatment, 95 per cent. of the patients should recover with useful and not unsightly limbs.

Subluxation of Tibia.—There are two conditions that cause deformity and useless limbs. These are subluxation of the tibia and another group composed of different complications. The principal complications are knock-knee, bow-legs and genu-recurvatum. For the treatment of subluxation of the tibia, the application of Billroth's splint is a very useful method, but it succeeds only in skilled hands. By the application of properly-directed pressure with section of the hamstring tendons correction of this condition can be accomplished gradually but successfully.

Ankylosis.—Where ankylotic conditions exist these may be broken up under narcosis, and then if they recur, as is not unusual, the limb will be in better position. Where ankylosis is broken up, however, the surgeon must be very careful to put up the limb in an absolutely correct position. For the treatment of ankylosis, excision is very rarely required. Osteotomy is a much more satisfactory operation. It produces less shock, because it does not inflict much injury on already diseased tissues and for the same reason it is followed by rapid healing. The small skin incision required gives very little chance for the development of sepsis. The manipulations required for the operation are not extensive, and this is also a preventive of septic complications. The failure to remove any portion of the bone does not give opportunity so usual in excision for interference with subsequent growth. The liability to bending, especially backward, common after excision, is also avoided.

Technic of Osteotomy.—The osteotome wound should only be of sufficient width to admit the instrument, which, as a rule, is less than one-half an inch across. The cutaneous incision for this purpose should be made longitudinally, and after the periosteum has been pierced the osteotome can be inserted and twisted around in such a way as to make the osteotomy on a horizontal axis. While excision destroys all possible hope of future motion in the joint, osteotomy leaves the possibility of a reasonably good joint with satisfactory motion.

Illustrative Cases.—Dr. Townsend gave details of two cases recently under his care. The first was a boy of sixteen suffering from marked genu-recurvatum. The bending back at the knee had begun about a year after excision of the joint, because of tuberculous arthritis and osteitis. A subcutaneous osteotomy was done and forcible straightening under ether was accomplished. The boy recovered with a good leg that continues to be useful and presents comparatively little shortening despite the previous excision. In the second case there was some subluxation of the tibia and flexion of the leg to an angle of 90 degrees. At first an attempt was made to straighten the leg under ether, but this did not succeed. A subsequent attempt succeeded to the extent of making the angular deformity only 125 degrees. Later the leg was straightened to 140 degrees. Finally a subcutaneous osteotomy was done with a straightening to 180 degrees. There is now very little difference in the length of the limbs and the patient is able to use the leg very satisfactorily.

Appendiceal Fistula.—Dr. John B. Deaver of Philadelphia said that this sequela of operation for appendicitis is an extremely important one. Its occurrence is always very annoying to the patient and detrimental to the credit of the attending physician and surgeon. It is besides not without its dangers and the means of avoiding it are extremely important. Its prevention would be easy if patients were operated on in the early hours of attack of appendicitis. If cases were presented for operation sufficiently early no fistula would exist. It is hard to understand why medical men insist on delaying operations in appendicitis cases, since there is more danger, not only at the time of operation, but also because of the sequelæ that are liable to develop if operation is done late.

External and Internal Fistulæ.—Fistulæ may be divided into two groups, external and internal. The latter group includes all those cases in which some means of communication is formed between the appendix and its broken-

down detritus and a hollow abdominal viscus, or, the more rare cases, in which there is a communication between the thorax and evacuation of the contents through the bronchial tubes. The most common internal fistulæ are those of the intestine. Fistulous connections with the ureter or bladder are, however, common enough not be unfamiliar. Internal fistulæ are rare as compared to external fistulæ. They also very rarely need surgical interference.

Intestinal Fistulæ.—It is sometimes thought that the fistulous connections between appendiceal abscesses and loops of the intestine form a not unfavorable termination of a case of appendicitis. There was a time when medical men looked upon this as a triumph of Nature's effort to cure the disease. As we have more carefully followed cases of appendicitis we have learned to realize that in these cases of intestinal evacuation of the abscess there are not infrequently subsequent symptoms of indigestion extremely obstinate to treatment, that are evidently due to the presence of this fistulous connection with a purulent focus. Undoubtedly, too, the adhesions which form because of the chronic inflammatory condition present furnish opportunity for the development of obstruction of the bowel. Dr. Deaver is sure that these old chronic sites of inflammatory disturbance often form the nidus in which cancer develops.

External Fistulæ.—These may be divided into two classes, fecal and non-fecal fistulæ. Through the non-fecal fistulæ there escape urine, pus, bile, or mucus. Urinary fistulæ in connection with appendiceal operations are usually due to some connection with the ureter. It is rather easy for this organ to become involved in the appendiceal condition at the point where it crosses the psoas muscle and so lies just beneath the appendix. Fistulæ discharging urine may, however, occur as the result of the ulceration of a suppurative appendix after adhesions of the bladder have formed. This will occur, of course, in cases where the appendix lies in the pelvis. In other cases, where the general direction of the appendix is towards the liver, the tip of the organ may contract adhesions to the gall-bladder. When suppuration or gangrene occurs, the gall-bladder may become involved and a true biliary fistula result.

Purulent and Mucous Fistulæ.—Where pus or mucus continues to come from a fistula there are usually some foreign bodies present as the exciting cause for the secretion. This foreign body may be the appendix itself, which has sloughed off during the acute process, but has not been discharged when the abscess was opened. As a matter of fact it is usually illusory to promise one's self that the appendix will slough away entirely under these circumstances.

Cause of Mucous Fistulæ.—Persistent mucous discharge from a fistulous tract will often be found to be due to the presence of a suture left during the operation or to some threads of gauze or other absorbable material that may be present. At times the basis of the fistulous discharge seems to be a microscopical opening into the lumen of the intestine. This is not large enough to permit of the passage of material amounts of the intestinal contents. There is not sufficient gas nor infectious material to give a distinctly fecal character to the fistulous discharge. There is, however, sufficient communication to keep up an irritative subinflammatory condition that renders the fistulæ permanent.

Fecal Fistulæ.—If all the contents of the bowel find their way through the opening left after an appendiceal operation, the patient is really suffering all the inconveniences of an artificial anus. If the opening into the intestines be high up in the small intestine, an amount of biliary matter may be discharged into the intestinal contents and this will prove very irritating to the skin. If the connection is with the lower bowel, very frequently the fistula will heal spontaneously. These ulcerative openings into the intestine are Nature's attempts to cure appendicitis, but Dr. Deaver has much less confidence in Nature than in the surgeon's knife.

Injury of Serous Coat.—Some of the fecal fistulæ that result are due to careless handling of the bowel during appendiceal operations. If, in the course of freeing adhesions, there occurs a tear in the serous coat of the bowel, this will frequently lead to a fecal fistula. The intestine derives most of its nourishment through the serous coat and the lessened nutrition at the point of injury, with infectious material on both sides of it, will almost surely lead to ulceration.

Treatment of Fistulæ.—Many of the fistulæ heal spontaneously if given a chance. The rule, then, is always to wait a reasonable time so as to allow Nature's therapeutic efforts to have their opportunity. There is one exception, however, to this rule. If the fistula has a connection in the upper part of jejunum then the nutrition suffers so much that an attempt must be made at once to close the fistula. Dr. Deaver has had a patient in whom the taking of milk was followed in five minutes by its appearance in the fistulous discharge. In order to encourage the healing of a fistula food should be given in concentrated form, so as to make the feces solid. Liquid material leads to a perpetuation of the fistulous opening. As a rule, no purgative should be given and the lower bowel should be cleared out by means of injections. These should not be given under pressure sufficient to appear at the fistulous opening.

Operative Interference.—It is important that the opening of a fistula should be made equal to the cavity which it drains at its widest

part. Some time this free opening permits of drainage and healing from the bottom. Where further operative interference is necessary the surgeon should cut wide of the fistula and work toward it, segregating the infected segment of bowel so as to avoid the development of peritonitis. As a rule, if the repair of the bowel would lessen its caliber very much, it is better to excise a portion of it. The severed ends should be brought together by suture, anastomosis being brought about without any chemical aid. Needle and thread are sufficient and these are always at hand.

Multiple Fistulæ.—It is important as a rule in operating for fistulæ to look for other openings into the bowel. A thoroughly successful excision of a portion of the bowel may be rendered entirely futile by the presence of another opening in the bowel which remained undiscovered at the time of the first operation. In these operations drainage is usually needed, though sometimes the surgeon may have confidence enough in the asepticity of the site of operation to close the abdomen thoroughly.

Prevention of Appendiceal Fistulæ.—The prophylaxis of these serious sequelæ depends entirely on the earlier recognition of acute appendicitis by the medical practitioner and the application of surgery to the case. When early operation is done no peri-appendicular inflammation develops, there is no involvement of the intestines nor of the bladder, ureter nor gall-bladder. Where these complications are not present it is practically impossible for the fistulæ to occur. A time will doubtless come when the medical profession will realize that it is almost criminal to allow a case to run until there is the possibility of such fistulæ developing as the result of negligence and timorousness in making the diagnosis.

Discussion.—In discussing Dr. Deaver's paper Dr. Delancey Rochester of Buffalo said that the most important thing with regard to appendiceal fistula is its prevention by early operation. This does away with all danger of complications and sequelæ. There is no medical treatment of appendicitis that is of any avail. Dr. Rochester used to consider that opium did good. He once reported five cases of appendicitis cured by means of opium. All five of these cases have since been operated on in recurrent attacks of appendicitis, and one of them has died as the result of complications due to adhesions that formed during the suppurative process in the region of the appendix. In a recent case under his care the parents refused operation when he advised it, and then he used the morphine treatment with some success. Later on the child developed appendicitis with some complicating peritonitis, and after the abscess was drained a fistula remained. This fistula did not develop for nearly three months after the original operation. When the appendiceal region was incised the appendix was found free in the abscess cavity and four perforations were found in it that showed how intense had been the inflammatory process.

Immediate Operation.—Dr. Rochester used to be an advocate of the morphine treatment for acute appendicitis in order to allow of interval operations. He does not any longer consider that this is good medical advice. As soon as the diagnosis is made surgical intervention should be advised. Only in cases where the family decline operation should the morphine treatment be applied.

Use of Morphine Stupid.—Dr. F. H. Wiggin of New York said that the stupid use of morphine in appendicitis cases should be stopped entirely. The morphine only serves to cover up the symptoms, and, if the patient is tided over an attack, the result is only the development of the complications from which fistulæ form when operation has finally to be done. Patients should be allowed to bear some pain, and when morphine is administered the family should be warned that, though the patient will be more comfortable, the condition is really more dangerous.

Opening of Abscess.—The mere opening of an abscess is not an operation for appendicitis and should not be so called. It is always unsurgical to open an appendiceal abscess and do nothing further. All diseased tissues should be removed in these cases, the abscess cavity freely flushed out with hydrozone and the general peritoneal cavity flushed with saline solution. Portions of necrotic tissue should be picked off with the fingers wherever possible. After thorough flushing there is no need of drainage. The abdominal cavity may be closed, just as if there had been no septic condition. It may sometimes be necessary to remove a few stitches, but this is a simple matter, and the direct closure of the abdomen will in most cases prevent the danger of subsequent hernia.

Large Abscesses.—Even if two or three pints of pus are taken from a large abscess it is not sufficient merely to drain it. The appendix should be carefully looked for and all remnants of it removed. Recently Dr. Wiggin was called to see a case of a very large abscess in a child in which so much pus was present that he feared there might be retention of urine, and he asked for the passage of a catheter before he was sure of his diagnosis. In this case during the operation Dr. Wiggin broke up all adhesions and found two other collections of pus, completely shut off from the largest abscess cavity. These would inevitably have been left and would have made the operation a failure if the usual timid method was followed. Besides these collections of pus, a large concretion was found. Dr. Wiggin did so much tearing of adhesions that the attending physician and the anesthetist feared for the result, but the child recovered completely.

Injections into Fistulæ.—Dr. Wiggin con-

siders it foolish as a rule to inject material into fistula for long periods. This is part of the old routine treatment that should be abandoned. As soon as the secretion ceases to be purulent and becomes merely mucus the outside of the fistula should be kept clean, the lower bowel should be kept empty and concentrated food should be given with the idea of making the feces solid. The fistula will heal better this way than by meddlesome interference with antiseptic washes.

Anomalous Cases.—Dr. Ferguson of Troy said that he had two recent cases of great interest because of the possibilities they provided with regard to subsequent fistulæ. In one case there had been trouble in the appendicular regions for several years. Finally an operation was undertaken and proved to be very intricate. The adhesions were broken up without serious injury to the bowel. No vestige of the appendix could be found though the site where it had been was still visible. After considerable search the naturally amputated organ was found three or four inches away from the bowel and fastened to the mesentery by adhesions. A fistulous tract connecting it with the colonic region was found and traced with a probe. Drainage was used in this case and later a hernia developed. This, however, has been cured by radical operation.

In a recent case Dr. Ferguson found a woman nearly moribund. He merely opened the abscess and she at once began to improve. A fistula remained, however, and it was concluded that the stump of the appendix was causing the trouble. At a second operation this was removed, but still the fistula did not close. A third operation had to be done in which over an inch of the distal part of the appendix was found buried in adhesions not far from the hepatic flexure of the colon and three or four inches away from the original site of the appendix. These difficult and trying cases show what constant surprises meet the surgeon in the abdominal cavity and also make clear that each case must be treated individually and not according to any cut and dried method.

Pre-Appendicitis Operations.—Dr. Richard Gibbons of Scranton said that operations for appendicitis should really not be necessary. The appendix should be removed before the diseased process had gone on to the stage of inflammation. A great change has come over medical opinion with regard to appendicitis in recent years, and we must go still farther. When the great eye surgeon Agnew died from appendicitis, although under the care of Sands and McBurney, the other great Agnew said to Dr. Gibbons, "The surgeon must wait in appendicitis for the formation of adhesions." This is just what surgical experience since then has taught us that we must not do. Just as in the question of suppuration in the middle ear, we do not wait for the development of mastoiditis, but incise the ear drum before it occurs, so, as soon as appendiceal colic occurs the appendix should be removed. The condition is easy to diagnose, and for its radical treatment it needs only a little knife and a needle and thread.

Immediate Operation.—Dr. Parker Syms of New York said that it is sometimes claimed that 80 per cent. of appendicitis cases recover without operations. This is, however, a very superficial view of the matter. Most of the recovered cases afterward have attacks which are either fatal or require difficult operations. Eighty per cent. is not encouraging in statistics of recovery since it means an awful mortality of 20 per cent.

Symposium on Malignant Growths.

Cancers and Infectious and Inflammatory Processes.—Dr. Albert E. Woehnert of Buffalo said that in many ways cancer cases resemble infectious and inflammatory processes. The kidney symptoms are distinctly similar. Dr. Osler pointed out that in 25 per cent. of cancer cases there are albumin and casts in the urine. In another 25 per cent. there is albumin alone. Only 50 per cent. are negative from the standpoint of kidney manifestations. Other observers have found a lessened amount of solids and uria in the urine. Still others have shown the presence of indican. These also are urinary manifestations of infectious disease.

Toxemia.—The toxemia present in cancer cases resembles that seen in infectious processes. This may of itself produce death. The coma that develops as the result of cancer toxemia is not unlike that of diabetes. The general condition in cancer cachexia resembles the prostration of a general infection. There is the fetid breath, the coated tongue, the anorexia, and the diarrhea.

Parasites in Cancer.—Dr. George Blumer of Albany reviewed this subject very thoroughly. He said that in most infections the proof of the contagious nature of the disease is either direct or indirect. Direct evidence is found by inoculation. Indirect evidence by infection of those who are collected together in certain neighborhoods. If distinct inoculation were possible we should expect to find many cases of association of cancer of the penis and cancer of the uterus. This does occur, but so rarely that it is evidently only a coincidence. Parts of tumors have been transplanted to other parts of patients' bodies, but very rarely. Some such inoculations, however, have been reported to be successful. Inoculation into other persons has been necessarily rare. In one experiment five persons were inoculated with cancer juice, but without success. The evidence in animals has confirmed the idea of the transmissibility of cancer. Cancroid of the vulva of white rats has been transferred by inoculation to the tunica vaginalis of other animals. Inoculability, however, does not prove infec-

tiousness, otherwise the transplantation of skin would seem to show infective power in skin-grafts. The evidence is not complete.

Recent Parasites.—In recent years the literature of the parasites in cancer has become enormous. Three forms particularly have been described, coccidia, yeast and rhizopods. The coccidial period received its principal confirmation from the coccidial tumors which occur in rabbits. Usually the parasites described have been intracellular bodies, sometimes containing a nucleus, at times striated, and these bodies push the nucleus of the cell aside. Some of the discoverers have described the multiplication of these so-called parasites by means of spores. Others have described sickle-shaped bodies. San Felice and Roncali thought that they discovered yeast-cells in cancer. As a matter of fact, however, anything round and apparently having a capsule has been considered by these observers as a blastomycyte.

Many of the appearances found in cancer cells and thought to be parasites can be explained as areas of degeneration within the cell or as leucocytes that have wandered into the cell, or as manifestations of endogenous cell-formation. Recently Borell has shown that practically all the appearances that were supposed to show the presence of parasites can be explained as abnormal conditions of the centrosome in the new formation of cells in cancer-cells. This seems to furnish a complete explanation of many mysterious experiences and Borell's illustrations show how well and how carefully the work has been done. Leyden recently described an ameba found in the ascitic fluid of an abdomen in which cancer of the omentum existed. This could not be connected, however, directly with the cancer. All recent work points to the fact that any organism that may exist in cancer does not grow on any ordinary culture medium. Organisms that have been found were really due to chance contamination. Certain evidence collected of late rehabilitates some of the old arguments with regard to the possible infectious nature of cancer. A German observer showed recently that in a town of 3,000 inhabitants cancer occurred only in definite locations. There were two suburbs to the town, an eastern and a western. No cancer cases occurred in the western suburb; practically all the cancer cases occurred in the eastern suburb, a few being in the eastern end of the town proper. All the cases occurred in houses situated on a sort of creek or ditch. In this ditch the inhabitants had the habit of washing the vegetables that they consumed. Most of the cases of cancer occurred in the liver and stomach.

Buffalo Evidence.—A careful inspection of the mortality statistics shows that in Buffalo, where cancer is especially frequent, certain wards have many more cases of cancer than others. These wards are principally inhabited by Germans and Poles, who suffer five times as frequently from malignant disease as the inhabitants of other parts of the city. Among these people cancer of the stomach occurs ten times more frequently than is the average in the rest of the population. It would seem then that something in their diet favors the development of cancer. These statistics would lead one to suspect parasitic nature of cancer. The material is, however, too small for a definite conclusion in the matter. A careful collection of clinical material in this matter will undoubtedly bring us precious information and the collection of such clinical material only requires the co-operation of intelligent physicians throughout the country to make it of immense value.

Intrathoracic Growths. — Dr. Alexander Lambert of New York said that these are nearly always malignant. A few dermoid cysts, fibromata and echinococcus cysts occur. In the pleura malignant neoplasms are usually secondary to growths elsewhere and the existence of a cancer focus elsewhere is the best diagnostic element in a doubtful case of obscure intrathoracic symptoms pointing to pleural involvement. They cause either effusion or a dry pleurisy. In cancer cases the pleuritic exudate is hemorrhagic. The differential diagnosis from tuberculosis is not easy. The absence of tubercle bacilli or of characteristic tuberculous cells or the presence of cancer-cells may help to the decision. In the lung, primary cancer predominates over secondary growths. Carcinoma is seven times more frequent than sarcoma. It occurs by preference on the right and in the upper lobe. It may be nodular in form and spread over the lung so as to simulate miliary tuberculosis. Cancer of the lung may cause swelling of one side of the thorax.

Lung Cancer Symptoms.—The symptoms are increasing dyspnea and pain for which the ordinary pulmonary condition can be found. There is apt to be a characteristic sputum. This is called raspberry or currant juice sputum from its color and general appearance. The diagnosis in cases of diffuse cancer of the lung is not easy. The differential signs from tuberculosis are the less amount of expectoration and the lower febrile course of the temperature.

Mediastinal Growths.—These used to be thought mainly cancerous in character. Recent statistics, however, show that sarcomata occur more frequently. There usually are signs of vascular compression with these growths, and sometimes of nervous irritation or paralysis from pressure. Irritation of the recurrent laryngeal nerve may cause a brassy cough and other symptoms simulating aneurism. Percussion usually shows a dulness under the sternum and extending on both sides of the sternum, but asymetrically. There is often a paroxysmal cough not unlike whoop-

ing-cough. This is almost pathognomonic of mediastinal tumor. At times the tumor grows very large and produces diffuse dulness to percussion. These large tumors are usually lymphosarcomatous in character. As a rule the limits of the tumor can be readily mapped out by percussion, because the lung resonance helps the diagnosis. The boundary of the percussion dulness is often a sinuous line.

Cancer Statistics.—Dr. James Ewing, of New York, called attention to the great discrepancies in the statistics of the results of operations for cancer in the hands of various operators. To take only the one form of cancer of the breast, within the last year or two one surgeon has been reported to have had as high as forty per cent. of recoveries without recurrences for over three years. These were set down as radical cures. A careful operator here in New York at a large hospital says that not more than three per cent. to 5 per cent. of his patients fail to have recurrences. Needless to say the greatest care is taken to make the operation include as far as possible all infected tissue. A prominent surgeon says that he has never had a cancer of the uterus that failed to return. In 80 cases of carcinoma of the larynx operated upon, all but one had recurrences. The question then arises, Is there really such a thing as radical operation for cancer?

Pathological Considerations.—So far cancer operation statistics have been made practically entirely without the co-operation of the pathologist. Certain terms as alveolar or adenocarcinoma have been employed in describing these tumors, but their meaning has been very loosely applied. We are coming to the realization now that the histological structure of the malignant neoplasm rather than any special technic or completeness of the operation is the important factor in the prognosis of operated cancer cases. Certain well-recognized forms of cancer are almost sure to return no matter what the extent of the operation. Others show very little tendency to recur even when the operation seems conspicuously incomplete and even to invite recurrence.

Mammary Cancer Classification.—Cancer springs from many tissues in the breast, from the skin, the alveoli, the lacteal ducts, the endothelium, etc. An attempt at the classification of the malignant tumors of various origin according to their malignancy seems desirable. Those that have their origin in the skin of the breast are distinctly less malignant than any other cancers of the mammary gland. The most common form of this type of cancer is the simple epithelioma. Involvement of lymph-glands takes place very late in the disease and not until ulceration has taken place with consequent provision of the opportunity for the epithelial cells to reach the lymph-ducts. At times there is an anaplasia of the epithelial cells and more rapid invasion of the lymph-glands, but even these forms of cancer are not difficult to cure completely and radically. The danger of recurrence if all apparently infected tissue is removed is very little.

Paget's Disease.—This form of malignant disease of the breast is really cutaneous epithelioma. It is essentially skin cancer, and though in the course of time it may invade the lacteal ducts it should never be difficult to cure. If the affected tissue is all removed it should not recur. Dr. Ewing has seen recently a specimen from an operated case of Paget's disease in which the incision had been made through the affected tissues. Needless to say there was under the circumstances inevitably immediate recurrence in the scar of the operation wound. Such cases are not rare for the Paget's disease often extends beyond the apparent tumor in the breast, and at times beyond even the suspicious appearances on the external skin.

Clinical Course of Carcinomata.—The age and the rapidity of growth of a given tumor provide the best elements for its prognosis. It is much more important for the surgeon to state in making his report of the case that the tumor has been of slow or rapid growth before operation than to tell its size and the amount of involvement of gland that it had caused. As a rule the so-called reticular carcinomata are not very malignant, do not grow very rapidly and show no very marked tendency to recurrence.

Adeno-Carcinomata.—These forms of malignant tumor are always limited in their invasion and their removal is, as a rule, followed by true radical cure. It is not unusual for the surgeon to remove a so-called adenoma and for the pathologist to find there scattered islets of carcinomatous tissue. This is then added to the list of cancers removed by the surgeon and without due reason goes to swell the number of cured cases. Adenocarcinoma is not infrequent during the milk-giving period and while it often causes considerable annoyance to the patient it is usually not malignant and does not recur. The good rule to remove all tumors that occur in the breast leads to its removal. It sometimes does degenerate malignantly, and so its removal is advisable.

Pure Carcinomata.—These malignant tumors come from two sources, the true milk-secreting cells, or the lining cells of the ducts. When composed of the lining cells of the ducts, these carcinomata often retain a certain amount of at least simulated tubular structure. The cells arrange themselves in cylindrical groups, as if they still lined conducting tubes. This is one of the most diffuse form of cancer and is very malignant. It can be recognized even in atypical specimens, because it presents no evidence of milk-making. Occasionally the presence of the cancerous nodules irritates the secreting cells of the breast, and so there are some scattered manifestations of colostrum. These are, however, not typical enough to make us think that the gland-cells themselves are involved.

True Alveolar Cancer.—These malignant tumors come from the true secreting cells. The tumors abound in colostrum corpuscles and their evidence is of value as showing the fundamental

cells of the new growth. This form of cancer is also extremely malignant. The nests of cancer-cells grow with more or less of lumen, and in the spaces thus formed colostrum is found. Of the two forms of true cancer, the alveolar and the duct carcinomata, the greater malignancy belongs, perhaps, to the latter.

Insidious Carcinomata.—Malignant tumors which spring from the lining cells of the lacteal ducts are often most insidious in their course. They often do not produce a definite tumor and they may not grow rapidly. The lymph-glands will often be tightly distended with metastatic cancer-cells, before the tumor in the breast has given any serious evidence of its presence by pain or discomfort, or even been called to the patient's attention by the presence of a hard portion in the organ. There is often a capsule present and this protects the skin from invasion, but does not prohibit the entrance of cancer elements into the lymphatics.

Malignancy and Prognosis.—True carcinomata are most malignant when they occur during the period of lactation. When the essential elements of the gland take on a neoplastic process during the active period of function, they are especially liable to obtain abundant nourishment and consequently to grow very rapidly. Such tumors particularly are apt to be followed by recurrences, and it is by these that surgical cancer statistics are spoiled. It is only, however, when the surgeon gives the details of the age of the patient, the clinical course of the tumor and the morphology of the histological elements that compose it, that his statistics are of true service in judging of the results obtained by surgical intervention. There is in this matter an important field for clinical observers and for the collection of clinical material that will be of great benefit to our knowledge of cancer and its curability.

Caustics in Cancer.—Dr. A. R. Robinson of New York spoke of the use of caustics in the treatment of carcinomatous growths. They are especially useful in the treatment of carcinomata of the skin. Epitheliomata are divided into three forms. The superficial, or discoid, the deep, and the papillomatous. As a matter of fact, however, there is no hard and fast line between these forms. It must be borne in mind that the apparent limit of a skin cancer is never its true end. Always beyond the periphery of the apparent tumor there are cancer-cells in the tissue that must be destroyed when any effort at removal is made or the cancer will surely recur. As a matter of fact, any interference with a malignant tumor that does not destroy all the cancer-cells in the vicinity is apt to produce hyperemia and an inflammatory reaction with lowered resistive vitality of the normal tissues, which thus puts the cancer-cells in the best condition for growing rapidly. This makes the prognosis worse than before.

Forms of Caustics.—It is evident that the ideal in the treatment of cancer is the removal of all the malignant elements. This can be accomplished either by the knife or by any other destructive process. Cancer never diffuses itself regularly. On one or more sides of the tumor there may be little or no extension, while on the other side, the growth may extend widely beyond the apparent limits. In order to remove with the knife, therefore, the cut must be made deeply into healthy tissue . On the face, this is productive of very serious deformity. Caustics, therefore, can be used to destroy just sufficient tissue, the operation being watched very carefully and thus there is less disfigurement. Zinc chloride has been used for this purpose, and when combined with cocaine may be employed without pain, but it has no advantage over the knife, since it produces too much loss of tissue. Caustic potash may be employed with very good effect. After its application the slough is removed and another application of the caustic made. After its employment there is an intense inflammatory edematous condition in the tissues surrounding the tumor. In this zone of inflammatory disturbance the circulation is retarded, certain tox-albumins develop as the result of the lowered vitality in the part and these tend to destroy cancer-cells that may be present even at a distance from the malignant growth itself. In certain respects this form of treatment is ideal, and can almost be said to be selective in action, destroying the neoplastic cells much more than the true tissue cells of the part. A still better caustic, however—because of its well-marked tendency to selective action—is arsenious acid. It does not seem to act as a chemical, but as a devitalizing agent and picks out particularly the neoplastic cells, for its work of devitalization. Dr. Robinson does not think that more than one in twenty of the epitheliomata of the face need to be treated with the knife. Arsenious acid removes the tumors quite as completely and effectually and with much less subsequent disfigurement. The chances of recurrence are great reduced, for there is always hesitation with the use of the knife in going sufficiently wide of the apparently abnormal tissue to remove outlying cancer-cells.

Roentgen Rays.—Dr. Malcolm Morris, of London, the distinguished dermatologist, when on a visit to this country a few weeks ago, said to Dr. Robinson that for deep tumors of the upper part of the face the Roentgen rays are an effective remedy. Dr. Morris is a thoroughly conservative observer, and so it would seem that for the hopeless malignant tumors, beyond our skill heretofore, this new remedy provides a very promising method of treatment.

To be continued.

BOOKS RECEIVED.

DOSE-BOOK AND MANUAL OF PRESCRIPTION WRITING. By Dr. E. Q. Thornton. 8vo, 362 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

A TREATISE ON MEDICAL JURISPRUDENCE. By Dr. G. V. Poore. 8vo, 550 pages. Longmans, Green & Co., New York.

CIRCUMSTANCE. By Dr. S. Weir Mitchell. The Century Co., New York.

A MANUAL OF MEDICINE. Edited by Dr. W. H. Allchin. Vol. III. The Macmillan Co., New York.

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ORIGINAL ARTICLES.

SOME OBSERVATIONS ON SOUTHERN CALIFORNIA.[1]

BY SAMUEL A. FISKE, A.M., M.D.,
OF DENVER, COLORADO.

THE State of California, the second in size in the United States, covering 155,980 square miles of territory, is usually subdivided, for convenience sake, into Northern, Central and Southern California, each portion having its well-defined characteristics not to be confounded with those of the others any more than one brother should be taken for another, simply because he bears the family name. In Southern California I spent the months of February, March and April of this year and it is of this portion that I want to say a few words, in a chatty way.

By Southern California is meant that portion of the State which lies to the south of Tehachapi Peak, or, roughly speaking, the seven southern counties of Santa Barbara, Ventura, Los Angeles, Orange, San Diego, Riverside and San Bernardino. On the Atlantic Coast this would reach from a point somewhat south of Cape Hatteras nearly to Charleston. Its boundaries, for vacation purposes, are fairly represented by Santa Barbara to the north, San Diego to the south, Redlands to the east and Catalina Island to the west. Parallel with the coast, but back from it at varying distances up to ninety miles or so, is the Coast Range which cuts the sea-coast off from the desert to the east, and at right angles with this range, and running sometimes to the very shore, are numberless spurs, making a series of valleys, but sparsely inhabited.

While there are characteristics which these places have in common and which are not to be confounded with those of portions of the State further north, they nevertheless differ from each other; for in this region we have seashore and mountain, low and high altitude, the ocean fog and the absence of that fog; so that these conditions must constantly be borne in mind. Here are the well-known places of San Diego, Coronado, Lakeside, Santa Anna, Orange, Los Angeles, Santa Catalina Island, Santa Barbara, Montecito, the Ojai Valley, Nordhoff, Pasadena, San Bernardino, Redlands, Riverside, Mentone, Colton, Strawberry Valley, etc., while Monterey, Santa Cruz, San Jose, and San Francisco lie farther to the north and are in Central and not Southern California.

It so happened that our journey was made in a snow-storm, and icicles hung to the car windows; this emphasized to us the fact that from first to last we did not see snow in Southern California, except occasionally on the distant mountain peaks. The ice on the tables was manufactured and most of the houses are supplied with "cool rooms," rather than refrigerators. On the other hand, but little provision is made for fires. The hotels have steam heat here and there, to take the chill off of the air when necessary, but coal is brought from a distance at a considerable cost, and a few sticks of cottonwood are harbored almost as an easterner would cherish hickory. At times a blazing hearth is cheering, and is welcomed when met.

The foliage, too, struck me as being different from that to which we are accustomed. It was the winter season and the green trees were of the evergreen variety—cypress, palm, pepper, eucalyptus, rarely a pine; live oak, magnolia, orange, lemon and olive there were of course, and groves of these trees are on all sides in this southern country. I saw none of these as we went further north. The elms, maples, oaks, chestnuts and spruce were absent, though I did run across some beeches high up in the cañons, and now and then I saw a drooping willow. The mistletoe in large clusters, generally on sycamore trees, was not an unusual sight.

The bird-life was novel and interesting. The mocking-bird, singing away from some thick tree or chimney-top, the wild canary, the linnet, the quail and, most of all, the meadow-lark, made music. It seemed odd to have the lark pouring forth his melodious strains from the top of a post on the one side, while the surf was breaking on the beach on which we were walking and the snipe were scurrying before the incoming wave, and all this in early February, when we could see snow on the distant mountains.

And who can speak of this country and neglect to mention the flowers? One thinks of roses blooming on all sides in the open air in midwinter in California, but he will not soon forget the luxuriant growth of the gold of ophir roses, trailing over the very roofs of the cottages, or, with their companion, the cherokee, making an impenetrable hedge for hundreds of feet; nor the paths bordered by marguerites and calla lilies. And as for the orange groves, with their trees weighted down with fruit and at the same time white with blossoms, and the air heavy with fragrance, the experience is a never-to-be-forgotten one. As one invariably associates some particular brookside with the trout, or Duluth with the planked whitefish, or lower Cape Cod with the broiled bluefish steak, or Digby, Nova Scotia, with fried herring, and each particular food never tastes so good anywhere else, so one can never, I think, wander amongst a grove of orange trees and pick up from under one of them a Wash-

[1] Read at the meeting of the American Climatological Association, 1901.

ington navel that has just fallen, so ripe that it is thrown down by the wind, as juicy as any watermelon, dripping as it is peeled by the fingers (without a knife) and as sweet as sugar—one cannot have such an experience, I think, and not put a pin in it to fasten it there and make it one of the events of one's life. One may eat the best oranges the market can produce, surrounded by all the comforts and luxuries of club life, spotless table-linen, delicate china, polished silver, steel and glass, noiseless carpets, and attentive servants, but he will still sigh for the hillside, the view, the carolling of birds, the breeze, the perfume, the sunshine, the luscious and juicy fruit and that orange grove.

This country is full of seeming contradictions, and by the side of this cultivation may be rough fields or tall growths of cacti or what looks like waste land, acres upon acres of waving grain, bordered by barren fields, or even by marshy lagoons. Like a pretty girl, she pouts and smiles with the same lips, but she is always beautiful. There are the same reds and browns as in the landscape of Colorado, but it is not so rugged and the effects of rocks and boulders is lacking. In fact, were a comparison to be made between two things so alike in some respects and unlike in others, it might be said that Colorado is stimulating, while California (*i. e.*, the southern portion) is soothing. The soil is porous and dries rapidly, and dust is on the clothes and shoes and follows the carriage wheels.

The towns are furnished with abundant water supplies of clear mountain water, and the lay of the land makes fine drainage, which in many instances is into the ocean. While dryness is the prevailing impression, I recall a wet and nasty day spent in Los Angeles, in the very first of February. I think of down-pourings of rain and puddles at Coronado at the same time, of washouts and delayed trains, etc., but I also think that when the clouds did roll by, and the sun did come out, which was about the middle of the month, it came out to stay, and I cannot recall having had to use my umbrella in Southern California after that.

This leads one to speak of the rainy season for which California is famous and which, to quote from a writer on Southern California, "usually begins in November, though slight showers may have occurred in October, and it lasts until about the middle of April."[1] From the same writer, a former member of this Association, William A. Edwards, M.D., in "Two Health Seekers in Southern California," we learn that an average of twenty-four years puts the total annual rainfall at 10.23 inches, of which 8.75 inches fell in the four months of December, January, February and March. But then there are the fogs, which come rolling in from the sea in great banks, and may totally obscure the sun until late in the day. Sometimes they obscure it all day long. I have frequently seen the trees drip, drip, drip, as though from a shower, and all from a fog or a heavy dew. In the morning the asphalt on the streets is often black as though from a rain, but really due to fog or dew; and the moon may shine clearly and the pillars of the veranda be wet from the same cause. One needs wraps at night, and sitting out of doors is almost out of the question. I am speaking now of the seashore and of the winter and spring months.

A comparison shows that this climate, which is a dry seashore climate, has a high relative humidity as compared with that of Colorado, and that its absolute humidity is, in the winter and spring months, about two and one-half times as great. This is worthy of consideration, especially in relation to pulmonary disease, and personally I should expect better results in persons in the early stage of this trouble, and of recuperative power, in the drier mountainous regions than at the sea level of Southern California, even if the climate is less rigorous than that of most places along the Atlantic seaboard, or vastly drier than Florida and around the Gulf.

It has been well said, with reference to quite another subject, "They reckon ill who leave me out," and so the man who leaves out of the consideration of this climate its fogs, which do exist, which are cold and nasty and depressing to mind and body alike, does not reckon aright. While this is preëminently a region of sunshine, one may lose the feeling of buoyancy and exhilaration experienced in the Rocky Mountains, especially in the early morning, caused by a clear sun, a blue sky and warm air—all because of the fog.

But equability is the keynote to the climate of Southern California. The writer above quoted, says: "There is little seasonable change in the extreme southern part of the State. . . . We do have cold days. We also have those that are altogether too warm for pleasure and comfort. But we almost never have sufficient cold to injure or kill the most delicate vegetation, nor, on the other hand, is the heat ever prostrating or dangerous to the individual or his animals."

For my own part, I was wont to walk in a golf suit, and frequently the perspiration would stream off of me in drops, as on the Maine coast in summer, and I would see shirtwaists and fur boas, straw hats and Derbys in the same crowd. The Marine Band from the U. S. S. "Iowa" would give open-air concerts in February, and the crowd of several hundreds would sit or stand around or even lie on the grass, in perfect comfort, and listen to the music for an hour and a half, from three to four-thirty in the afternoon. Notwithstanding this, it was advisable to have an overcoat at hand and to be in the house in the evening. This was at sea-level. I found the mountain region somewhat drier, but there, too, the same rule held, though not so forcibly.

The daily motion of wind is slight and at the seashore did not interfere with plans. Higher up in the mountains, I experienced several dust storms that would have done credit to a region

[1] In February of this year the rainfall was 4.77 in. as against an average of 2.05 in., while the four or five seasons preceding were so dry as almost to dry up the orange crops, and in March there were only two cloudy days.

severely criticised on their account; and a housekeeper at Redlands complained of the difficulty of keeping the house clean.

To sum up, my strongest impression is of sunshine, a dry soil and mild temperatures. I found this a land of contrasts, novel and interesting, but of contrasts just the same. Orange blossoms and ripe fruit on the same tree. The place, the country, and the atmosphere were pacific and soothing; some found them enervating. People from Colorado came to California for relaxation, while, on the other hand, some went from California to Colorado for invigoration. Equally with the surrounding atmosphere, the social tone would vary from the crowd on pleasure bent to one of simplicity and refined retirement. One lived in flannels all day long, and fished, hunted, rode horseback or played golf, or he sat listlessly around and gaped at the crowd, composed of statesmen, diplomats, admirals, generals, handsomely dressed women, wealthy men—just as the spirit moved. One man remarked: "I thought we had to go to the Riviera to find this."

There seem to be two distinct seasons in the hotel-life of California. In the winter comes the tourist from the East; in the summer, the migration of the Californian himself; and I am very generally told that the summer is the choice season.

The distance intervening between the Atlantic and the Pacific Oceans seems appalling to many. But some of our best railroads run into Chicago and from that place to Los Angeles is less than three days of travel, which may be spent in a sumptuously appointed train that, in elegance and comfort, will bear a favorable comparison with those farther east.

EXAMINATION OF THE MOUTH IN INFANCY CHILDHOOD.

BY JACOB SOBEL, M.D.,

OF NEW YORK;

ACTING VISITING PHYSICIAN (DISEASES OF CHILDREN) AT THE GOOD SAMARITAN DISPENSARY.

THE more one examines infants and children, the more deeply does he become impressed with the importance of a thorough and systematic inspection of the mouths of these little patients. To those mainly accustomed to adult oroscopy, it may seem that this examination is a very simple procedure and that a superficial look, as it were, is all that is required. Such is not the case, however, as those identified with pediatrics can testify.

In the first place, examination must be conducted not only without the aid of the patient, but in most instances much against their will and inclination; and, secondly, the mouths of infants and young children present a picture so different from that of the adult that many normal or harmless features will appear as pathological lesions to one not familiar with their examination. For example, not only are the lateral surfaces of the hard palate very much paler in infancy, but in many instances the lips appear to be composed of two parts separated by a sharp line of demarcation, that is, an inner or bluish and an outer or reddish part. I have had both of these normal conditions referred to me for question as to their specific character.

Again, congenital peculiarities of a perfectly harmless nature may cause unnecessary alarm and interference, for instance, the case in Prof. Filatow's family,[1] in which a congenital, irregular grayish patch on the fauces was diagnosticated as diphtheria. In several instances, I have observed enlarged follicles of a congenital nature on the tonsils, which might have been mistaken for membranous deposits.

For a thorough inspection of the mouth in infants and children three conditions are absolutely necessary, namely, good position, good light, and a good tongue depressor.

A great deal of unnecessary exertion on the part of the patient, mother, and physician, is often wasted in attempts to "hold the child down" in unnatural positions. Not only do these render examination difficult and imperfect, but they endanger the mouth by forcible examination, which, as Jacobi has pointed out, is above all to be avoided in diphtheria; in this condition alarming collapse and even death having followed such manipulation.

The ideal position is to have the back of the child rest against the mother's right breast, its head against her shoulder, her left hand holding the child's knees, her right its hands. The left index finger and thumb of the physician are placed on the infant's temporal region and with the palm the head is held firmly against the mother's shoulder. It is surprising to see how rarely such a simple procedure is adopted and how frequently physicians will resort to all kinds of positions for examination.

Without good light nothing can be accomplished. Direct daylight thrown into the mouth answers every purpose; shadows are to be avoided, hence daylight from one direction must be used. In dispensary practice I have often found subdued light more satisfactory than bright sunlight. In exceptional instances a forehead reflector with daylight or artificial light may be necessary; the latter is preferable because not so diffuse, even though the former retains the natural color of the parts more clearly. The forehead reflector is far superior in my opinion to the hand mirror, since it fulfills every indication of the latter and at the same time leaves the hands free for operative or medicinal intervention.

At night it is always wise to examine with a forehead reflector or an especially constructed pocket electric lamp. Unfortunately the lamp requires constant care, for the cells need frequent replenishing and the light is often out of order when required most. For that reason I prefer the forehead reflector with candle or gaslight, or, if possible, the Welsbach.

The third requisite is an efficient tongue depressor. What constitutes a good tongue de-

[1] C. Herrman, N. Y. Medical Journal, Jan. 10, 1901.

pressor will depend greatly upon the personal equation. In private practice, conditions vary from dispensary work and hence must be considered separately. Broadly speaking, tongue spatulæ may be grouped into those with and those without a handle. Among the latter the ordinary tea- and tablespoon or the wooden slips, as used by the New York Board of Health, are the most convenient. The great advantage of these is that they are used for one patient only and then immediately boiled or burned. These advantages are more than counterbalanced, it seems to me, by their lack of firmness and the impossibility in numerous cases of obtaining a proper *point d'appui;* the wooden spatulæ, being of various sizes, are uncertain and the spoon does not always admit of firm pressure, for the resistance which some infants offer to the depression of their tongues can only be appreciated by those who have experienced it.

I have used the spatula with a handle in dispensary practice and have found it most serviceable. Chapin's tongue depressor has served me well, particularly when I desired a very thorough inspection of the pharynx and tonsils; in fact, with it, inspection of the anterior surface of the epiglottis is frequently a simple matter, especially in very young children. Like all other tongue depressors, however, it has failed me when I desired a thorough examination of the under surface of the tongue and floor of the mouth, and particularly in "nicking" instances of tongue tie. True, the wide end of a grooved director would apply, but it occurred to me that a combination of depressor and director, so to speak, would answer every purpose, especially where some sixty to one hundred or more children were examined daily. Accordingly, Messrs. Tiemann & Co. have perfected for me an instrument which I have used, mostly in dispensary work, with great satisfaction and which I present for consideration and trial.

It consists (see Fig.) of two blades connected by a hinge joint which permits of its being folded. The smaller blade measures 3½ inches in length and ½ inch in width at its broadest part; the larger blade measures 3⅞ inches in length and ⅞ inch at its broadest part. The depressor is made of nickel plated steel, is highly polished, easily manipulated, light in weight and portable.

It combines the advantages of a tongue depressor and the broad end of a grooved director and is designed mainly for the examination of the mouth in infancy and childhood. It is modeled in part after the Chapin instrument in that the end is somewhat dipped in order to pull the tongue downward and forward; it is notched in order to grasp the frenum and admit of a thorough inspection of the sublingual region and floor of the mouth, as well as for "nicking" the frenum in tongue tie. Many lesions otherwise overlooked—sublingual ulcers, aphthæ, dilatation of the sublingual veins, small nævi, cysts, adherent frenum, etc.—are recognized with the aid of this instrument. Any frenum is brought within its grasp, the longer and thinner ones far more readily than the shorter and thicker ones. The smooth edges prevent any discomfort or injury and the end is sufficiently thin and narrow to be passed along the lower alveolar border to the pharynx—an important requisite in obstreperous children. The larger end may be found efficacious in cases of so-called uncontrollable tongue in later childhood or the adult.

No oroscopic examination to my mind is complete without a thorough inspection of the under surface of the tongue and floor of the mouth, and for this purpose an instrument after the above fashion has been found necessary in my experience.

When cutting the frenum the depressor may be held in the usual manner, or reversed with the concavity of the blade pointing toward the face.

In using the instrument, one should insert it below the tongue in the median line, when in most cases the frenum will fall within the notch; if not, a little gentle manipulation will effect the desired result. In examining the tonsils and pharynx, if

the instrument is passed far back on the tongue, the epiglottis in the vast majority of cases and the upper part of the larynx in favorable ones will be brought into view.

I am not unmindful of the fact that a criticism as to the difficulty of proper cleanliness might be raised against it, as against all other metallic instruments; in my dispensary work, however, three instruments are at my disposal; these are kept in Thiersch's solution (double strength) flavored with a few drops of the oil of anise. When the depressor is used in diphtheria, scarlet fever, whooping-cough, measles or in suspicious cases, it is immediately sterilized. In private practice sterilization by boiling is but a question of a few minutes and is readily carried out.

Position, light, and depressor being ready, examination is begun. If the child cries and opens its mouth so much the better, for the instrument is inserted at once and the cavity inspected. If difficulty is encountered in opening the mouth, the spatula is passed at the side along the lower alveolar border to the pharynx; once this is irritated the mouth will open. On account of this difficulty the depressor must not be too wide or

too thick and yet not too thin or sharp as to cause injury. It has never been found necessary to resort to closure of the nostrils, nor have we met with any child so uncontrollable as to deter examination.

It has been my experience that many physicians, certainly beginners, when examining the mouth, see nothing but the tonsils and pharynx. It seems as if these constitute for them the entire oral cavity.

A systematic examination of the mouth must be conducted to my mind as follows: The depressor is inserted at the left angle of the mouth, the cheek and lips everted, then at the right angle, and the cheek and lips everted. The spatula then catches the frenum and the under surface of the tongue, the frenum and the floor of the mouth are observed; the spatula being removed the upper surface of the tongue is viewed; the latter is then firmly depressed and the hard and soft palates, fauces, tonsils, pharynx, and in the vast majority of cases the epiglottis are observed.

A complete inspection, then, embraces four views, namely, (1) cheeks, lips and gums, (2) under surface of the tongue and floor of the mouth, (3) upper surface of the tongue, (4) hard and soft palates, fauces, tonsils, pharynx and epiglottis. The first step—eversion of the cheeks and lips—being the least disagreeable, gains the confidence of the patient for the more uncomfortable examination of the tonsils and pharynx.

The very first step may give us information as to the presence of catarrhal, aphthous, parasitic, ulcerative, or gangrenous stomatitis; epithelial pearls, Koplik's spots, dental ulcers, progress of dentition, character of the teeth and gums (spongy or hemorrhagic), purpuric spots, molluscum epitheliale, verrucæ, anemia, cyanosis, swelling of the outlet of Steno's duct, etc.; the second step tells us of the condition of the frenum (long, short, thick, adherent or vascular), the presence of sublingual ulcers (pertussis), the condition of the sublingeal veins (dilated in sporadic cretinism), patches of stomatitis, and the general appearance of the floor of the mouth. The third step will give us information as to the color, size, and general appearance of the tongue, whether coated, clear, anemic, congested, hypertrophied, strawberry, fissured, or presenting irregular exfoliated areas (so-called ringworm of the tongue), and the final step may show us perforation, deformities, or congenital defects of the hard palate, stomatitis, purpuric spots, lesions of varicella and variola, papular eruption of measles, Epstein's pearls, Bednar's aphthæ, an elongated, short, bifid or edematous uvula, jaundice, faucitis, hypertrophied tonsils, pharyngeal inflammation, exudate or growths, retropharyngeal edema, adenitis or abscess, pharyngeal granulations (important in the diagnosis of adenoid vegetations), tonsillar inflammation or exudates, peritonsillar abscess or edema, etc.

When one is brought face to face with great numbers of children, one soon finds the need of rapid and yet thorough examination. No thorough examination can be conducted rapidly unless it be systematized. The aforesaid method has been used by me for some time and I have by this means not only been enabled to make this important examination with thorough satisfaction, but I have observed a very large variety of conditions.

At the Good Samaritan Dispensary every mouth is subjected to thorough and systematic examination, irrespective of the ailment, and it is only by methodical means that we are enabled to control a large material with justice to the patient and satisfaction to ourselves.

Unless the tongue be firmly depressed so that the tonsils roll out, many patches and ulcerations, diphtheritic and otherwise, which are situated at the lower and posterior part of the tonsil will be overlooked. This often causes the patient to gag and cough, so that it is well for the physician to protect his eyes with a pair of ordinary glasses, in cases known to be contagious or in suspected ones.

Whatever be the tongue depressor employed, let system govern the examination of the mouth, and let every portion of it be thoroughly inspected lest gross errors be committed.

1828 Madison Avenue.

A CASE OF CONCUSSION OF THE BRAIN AND HYSTERO-EPILEPSY.[1]

BY WILLIAM B. NOYES, M.D.,
OF NEW YORK;
ATTENDING NEUROLOGIST TO THE DEMILT DISPENSARY.

THE following case has been fought out on its merits in lawyers' offices and in the courts. Those who have studied it and expressed the usual positive opinions of "medico-legal experts" are probably all agreed that several interpretations might be put upon it, varying not a little possibly from their opinions as stated on the witness stand.

The patient was a man, George A., aged thirty-five years, married. Three years ago, when employed in his occupation as a telegraph lineman, he climbed a rotten telegraph pole and fell from the height of 15 feet, striking his head. He was stunned and his scalp was severely cut. He was taken to the Staten Island Hospital and was able to go to his home in Brooklyn the next day. Of the events immediately following the accident he has had no recollection since. Epileptic fits occurred when he reached home and recurred frequently afterward. The diagnosis made a month later at Bellevue Hospital was concussion of the brain and traumatic epilepsy. To relieve his condition the operation of trephining was strongly urged and refused by the family. He was considered seriously injured. There is record of decided change in his mental condition, his wife stating that he became morose and quarrelsome.

Previous history proves that he has always been able for years to do lineman's work and had never had a fit. There was no history of alcoholic excess.

[1] Read before the Medical Association of the Greater City of New York.

He had been involved in some trouble with the police two years before his accident on account of having in his possession some wire that did not belong to him. On account of this he had served a short term at Sing-Sing.

The card of physical examination by the Bertillon system taken at that time showed that his physical development was normal, no marks on head or body. Eyesight normal, although the photograph recorded a slight squint. There is no record of any fit at Sing-Sing, although a fainting fit of some sort was claimed to have occurred at the White Plains jail before he went to Sing-Sing. This was seen by one person only.

I saw him first March 13, 1900, at his home. He was having a fit at the time. He was unconscious, breathing heavily, lying prone in bed, more or less rigid, the face red. The clonic convulsions had ceased. The eyelids opened easily, pupils not especially dilated. Mentally, he was at first unconscious; after 15 minutes, partially conscious, though confused. After his mind had become clearer, he seemed to be much fatigued mentally and physically and impatient of questions. His memory was poor. He told of his accident and subsequent illness, but was not clear in his mind as to what had happened after his fall. The fit seemed to me at the time to be a typical epileptic convulsion, but a second fit resembling the first was precipitated by pressing on a spot on the left side of his head. He could not see distinctly with his right eye, not distinguishing fingers five feet away. He complained of seeing everything red before his right eye before the fit comes on, and at the time I saw him. The motor nerves of the eye and other cranial nerves were normal. Speech was normal, after the fit was over. His extremities showed a *left* hemiplegia, during and for a while after the fit. Rigidity was not marked. There was no tremor. Knee-jerks were absent at the time. Sensation to touch and pain deficient over the entire left side, especially over upper arm and above middle of the leg. Hyperesthesia over right breast. Intense hyperesthesia over area on the left side of the head, 1½ inches above the posterior corner of the eye, near junction of temporal and parietal bone. Pressure over this spot at the close of the fit produced a new convulsion. He complained of intense pain in that region at that time and at other times, especially before a fit.

A second examination at my office gave the following data. He appeared to be a strong, healthy man, weighing about 150 lbs. and height 5 feet 8 inches; grip on dynamometer on both sides 35 pounds. There was no ataxia; the knee-jerks were present, and alike on both sides. There was also noted unsteadiness and a coarse tremor of the hands. Examination of the eyes by myself and later by Dr. Curtis Carter showed that he was suffering from an extreme concentric limitation of the visual field of both eyes. A plain glass gave him normal vision, thus establishing a diagnosis of hysterical amblyopia. Ophthalmoscopic examination was negative and refraction normal. Left arm weak and partially anesthetic. Left leg weak. Left side of his head tender over a depression existing near the junction of the frontal, parietal and temporal bone located 9 cm. from alæ nasæ; 15 cm. from occipital protuberance; 8 cm. from ear; 7 cm. from frontal bone. Slight thermalgesia. No hyperesthesia. During the year following the accident he had had occasional fits seen by various witnesses, the convulsions appearing to be of the nature of epileptic fits.

He tried to get work, but was unable to do anything continuously from his shattered physical condition. Mentally he changed much, being morose and at times acting as if insane. He suspected his wife, and left home for some months, living under an assumed name. This mental condition had improved at the time of my second examination and at the time of his trial he made a favorable impression on the spectators.

Traumatic cases of this sort are as a rule extremely puzzling, because, no matter how definitely the organic symptoms appear, the classical train of symptoms of traumatic hysteria are almost certain to be so largely in evidence that the jury and lawyers are strongly impressed with the belief that the patient in question is "faking."

With the limited knowledge of the pathology of hysteria at our command, an accurate study of the real relations between hysteria and organic disease is difficult or impossible. With a severe trauma at the starting-point the problem is still more difficult.

In concussion of the brain certain pathological events occur. A fall or blow on the head of only moderate severity may produce the following results: A brief diminution of the blood-pressure of the part, resulting in more or less mental disturbance. The cells of the cortex of the brain do not stand being deprived of their accustomed nourishment without manifesting such symptoms as a brief perversion of memory and intellect. Memory is for the time being lost and power to recognize surrounding objects is lost or weakened. The sensory portion of the cortex responds by pain and other sensory symptoms; the motor by paralysis or symptoms of reflex excitability. Marked alterations of the cerebral circulation may occur in many conditions besides direct traumatism. Simple hyperemia is not pathological. The quality of the blood in the brain is often far more important than the quantity.

Intercranial and cerebral venous pressure vary directly with the pressure of the vena cava, and only indirectly with the aortic pressure. The volume of the blood in the brain under physiological conditions is only slightly variable. Loss of muscular control and paralysis of vasoconstrictors induced by shock or exhausting disease of any sort interferes seriously with the circulation by damaging the power of compensation, thereby permitting simple gravity to become a serious element. Under such circumstances when the subject stands in an upright posture the blood drains into the great abdominal veins, the heart empties and circulation ceases for the time being.

General shock is in addition a hyperirritation of the entire sympathetic nervous system occasioned by some sudden violent impression, causing contraction of the arterioles by stimulation of the vasomotor nerves. The character of symptoms indicates deficient vasomotor supply. The brain is made anemic, with secondary dilatation of its vessels. As hyperemia becomes excessive, the brain becomes again anemic from cessation of capillary movement and from edema. The result of compression and general contusion of the brain is the same.

After recovery from the milder degrees of shock and cerebral traumatism, a subsequent instability of cerebral nutrition due to increased susceptibility of the vasomotor centers remains with liability to anemia or hyperemia. Such persons, even after the milder degrees of traumatism, may easily remain unable to endure serious mental or physical labor, exposure to the sun, moderate alcoholic stimulation, or fatigue.

It is only very transient and slight traumatism that will thus pass by with only disturbance in the vascular and vasomotor system.

In severer grades of concussion there is in addition a jostling or displacement of the cells composing the surface of the brain. In such a condition, the patient may be unconscious of all that is around him. Or there may be a contusion of a limited surface, with local or isolated paralysis or motor convulsions, local or general, which may never recur, or which may persist as chronic epilepsy. The distention of the parenchymatous vessels already referred to may result in the formation of minute thrombi, or punctate extravasations of blood. Any attempt at absorption of these and the development of new fibrous connective tissue is apt to furnish another focus of cortical irritation which in the motor region so frequently results in epilepsy.

If the condition is to remain unimproved and chronic, the following pathological changes will be found in the cortex. The nuclei of the cells of the cortex become swollen, the cytoplasm stains diffusely with Nissl's stain; varicosities, atrophy, degeneration, hypertrophy, chromatolysis, vacuolization or complete destruction of the cell may occur; or, if there has been a hemorrhage, softening of areas of the cortex and adjacent white matter may develop. These are conditions frequently described in autopsies of epilepsy cases and in certain mental diseases.

With such pathological changes in the cortex, early evidences of mental impairment are to be expected. Or the patient may remain paralyzed in motion or special senses. Dementia associated with or independent of paralysis thus may be the result of severe injuries to the brain. Any type of mental disease may develop, either of the regular acute psychoses, such as mania or melancholia, or, as is much more commonly the case, the neuro-psychoses, such as neurasthenia or hysteria, may develop.

That tendencies exist not only on the part of the individual but of the tissues themselves to form habits must not be forgotten. This is true not only in the ordinary reflex or voluntary actions but in pathological ways. A child who has once had a convulsion is far more liable than another child to repeat it, from what might be termed newly-acquired activities of motor paths and centers, in ways the normal child might never develop. The habit of choreiform twitching in later years of childhood is easily acquired and with difficulty lost. In a suggestible individual even organic disease readily recurs. In cases of cerebral traumatism one of two conditions must exist. Either the individual has been neuropathic for years and is abnormally suggestible, in which case there is no limit to the variety of strange symptoms a slight or severe traumatism may develop; or on the other hand the individual may have been through all his previous life absolutely sound in his nervous system, and the vasomotor changes and disturbances in the cortical cells already outlined, that have taken place at the time of the accident, have changed him into a neuropath with all the suggestibility of the previous case. No more potent suggestion can be made than the set of symptoms experienced in connection with an accident. Let the suggestion be presented to the mind that these symptoms must remain permanent and a full-fledged case of traumatic hysteria is developed.

The development of a fixed idea through autosuggestion or the suggestions of friends and lawyers is made a very simple matter after the initial shock and suffering of a traumatism. Apart from such a mental origin of a set of symptoms, the possibility that some definite injury to the brain has occurred, especially to the cortex and vascular system, is more than probable. In the case recorded, the marked indentation on the left side of the head which was proved to have occurred at the time of the accident, pressure on which causes pain and even epileptic convulsions, shows definitely that serious lesion of some sort had occurred. The fit seemed to be a genuine epileptic convulsion, and was followed by a post-epileptic condition of stupor and temporary hemiplegia resembling the series of exhaustion paralyses following epileptic fits described by Clarke. Mental degeneration was at times in evidence between the fits. Then come a set of symptoms which are certainly hysteria, pure and simple. Right-sided blindness due to concentric limitation of the visual field; anesthesia of entire left side of body (the injury being also left-sided) to the median line; marked hyperesthesia of the right breast; tenderness of the skin over the area of injury to head are all of a hysterical nature.

Hystero-epilepsy may mean general hysteria with hysterical convulsions, or definite epilepsy with intercurrent hysteria, or it may be a convenient term to cover up one's ignorance as to whether hysteria or epilepsy is the proper diagnosis. From a legal standpoint this is not an unimportant question, for in the minds of the majority of lawyers as well as jurymen in this city

hysteria is still held to be synonymous with simulation.

To establish a pathology for such combined cases during life and frequently even by autopsy is a difficult problem. Admitting the presence of an exhaustion paralysis of a temporary nature following an epileptic fit, and also admitting that the condition present in my case of temporary hemiplegia and in a long series of cases reported by Clarke of the Craig Colony of various other paralyses is truly the result of exhaustion, and the question arises, Why are not these complicated symptoms which we call hysteria, so closely associated with definite epileptic attacks, to be explained, also, as fatigue symptoms in a man who was originally suffering from concussion of the brain, and secondarily from epilepsy?

One condition is common to all these traumatic cases, and that is, whether or not litigation is being carried on, they have almost invariably lost the power of working continuously at any occupation, and fatigue promptly follows any exertion.

Other theories such as a loss or perversion of the mental conception of movement, derangements of inhibition, vasomotor spasm with resulting starvation of isolated areas of the brain, have all been held at times to be the causes of hysteria. General exhaustion of the cortical centers seems a much simpler explanation.

28 West 61st Street.

ON EXPERIMENTAL TUBERCULOSIS OF THE SUPRARENAL CAPSULE IN RELATION TO ADDISON'S DISEASE.

PRELIMINARY REPORT OF A PATHOLOGICAL STUDY.[1]

BY BINDO DE VECCHI, M.D.,
OF BOLOGNA, ITALY.

ALTHOUGH the number of observations on the suprarenal capsule is very large and much light has been thrown upon the structure, development and functions of this organ, its pathological importance still remains obscure, especially with relation to Addison's disease. Evidently the clinical and anatomical observations are insufficient since they do not furnish a solid foundation for the various theories advanced, nor has the aid given by experiments been able to solve the question, since the results obtained have been quite diverse and at times even contradictory. The reason for this failure may lie in the fact that experiment can never duplicate the conditions that exist in human pathology.

Extirpation of the capsules, lateral or bilateral crushing, and methods of injection of these organs into healthy or decapsulated animals, have all been done over and over again, but the method of procedure, and hence the consequences, must obviously be different in Addison's disease where the morbid process induces a gradual destruction of the organs.

Since the most frequent anatomical lesion in Addison's disease is tuberculosis of the suprarenals, I have developed experimental tuberculosis in them with a view to studying its effects on the general organism, an experiment never up to the present time attempted.

The experiments were conducted on male and female rabbits, both white and colored. The injections were made on one or both sides in one or two operations. Where no complications set in and the animals recovered from the immediate effects of the operation, life continued for from three and one-half to four months. During this time the animals lost 50 per cent. in weight, there was a slight rise in temperature and a progressive diminution of the number of red cells. Loss of appetite seemed to prevail; sometimes tremor and a paresis of the hind limbs developed and the fur appeared ruffled, but never could I observe any alteration in the color of the skin or of the mucous membranes, nor was the dystrophy of the fur, noted by other observers, ever present.

The post-mortem examination never revealed any important alteration of the bowels to which death might be attributed. The capsules were in partial or complete caseation, and by killing some of the animals at varying intervals after the injection, I was able to study the histogenesis of the capsular tubercle.

Soon after the inoculation, a granulation tissue forms along the course of the wound in which epithelioid cells do not appear and in which bacilli are scarce. Later these are more numerous and epithelioid and giant cells become evident. The medulla of the organ is soon converted into a mass of caseous detritus, while the cortical substance resists destruction for a long time. Moreover there is a vigorous development of connective tissue here so that in animals left to die the cortex is divided into numerous islands outlined by thick, fibrous bands with persistence of well-preserved, probably functionating fragments of tissue.

Examinations of the solar plexus, the splanchnic nerves and the cervical and thoracic chains of sympathetic ganglia were negative. Even the ganglia nearest the suprarenals were normal. Only in one case did I find the celiac ganglion altered by the tuberculous process which had diffused itself from the capsules to the surrounding parts. In the midst of detritus, rich in bacilli, one could observe half-dissolved cellular elements filled with droplets of fat and containing deeply altered nuclei. The process did not extend to all the cells of the ganglia, but only involved the diseased side. I add that the animals lived about three months, notwithstanding this secondary change; that it showed the same asthenia, debility and paresis as the other animals operated upon by me, but there was no pigmentation of skin nor mucous membrane.

The examination of the central nervous system in all the cases gave a most interesting result. It was impossible to find any injuries of the white

[1] From the Pathological Institute of the University of Bologna (Italy); Director, Prof. G. Martinotti.

substance, but there were grave changes in the gray matter, especially in the nerve-cells themselves, in the form of an increase of the pericellular lymphatic spaces, sometimes with the presence of corpuscles probably leucocytic in character, swelling and thorny appearance of the cells, abnormal position of the nucleus with disappearance of the chromatic network and the pseudo-nucleoli, migration of the nucleolus to the outside, advanced chromatolysis of the protoplasm, a pulverized appearance of the bodies of Nissl and broken or varicose prolongations. In the posterior part of the spinal cord the nerve-cells were found entirely changed and the pericellular and perivascular spaces were filled with red cells and leucocytes. All these lesions must, in my opinion, not be attributed to changes in the sympathetic system, but to a general intoxication with tubercle toxin.

In the other organs, such as the heart, liver and kidneys, I could determine degenerative changes. No lesions were found in the lungs, alimentary tract, pituitary gland, thyroid and ovaries.

After from fifteen to twenty days a larger number of nuclear elements were found in the blood, sometimes in a state of karyokinesis. There was also a great number of leucocytic granulations. Little by little, such elements disappeared. At about the same time the bone-marrow showed the presence of many red cells in karyokinetic division and of giant cells undergoing transformation into pigmented cells. A little later, the marrow is again of normal appearance. In the spleen, in addition to slight hyperplasia of the follicles, edema of the pulp and stasis, one meets with a strong accumulation of pigment giving the iron-reaction.

From the diminution of red cells in the blood and the activity present in the bone-marrow, one may conclude that the capsules possess hemolytic properties.

I will also mention that where only one capsule was infected no signs of compensation were evident in the other.

From this short account it is clear that by tuberculizing the suprarenals a serious poisoning of the rabbits is produced which ultimately leads to their death. The circulating poison has great destructive properties as is shown by the pathological changes in the heart, liver and kidneys and the cells of the central nervous system are particularly vulnerable. These injuries explain the nervous symptoms of those suffering from Addison's disease. I did not observe any secondary changes in the sympathetic cells and in the rabbit where the celiac ganglion was partially destroyed; I encountered no symptoms not seen in the other animals. Although I have certainly succeeded in causing an intoxication in animals by this special method, I have been unable to reproduce the characteristic bronzed skin. I will elucidate my theories of Addison's disease from the voluminous literature on the subject and my own experience at another place, and will only state here in conclusion that the cause of the diseased condition produced by me lies in the gradual destruction of suprarenal substance. To this undoubted capsular insufficiency must, however, be added the tuberculous intoxication, so that we have two factors to deal with. I think I have, by my experiments, reproduced as nearly as possible the process as it goes on in the human body and while I do not believe I have entirely settled the question, it has been brought nearer to solution and an entirely new method of research has been opened.

THE PHYSICIAN AS A SOCIAL FACTOR.[1]

BY ALEXANDER ROVINSKY, M.D.,
OF NEW YORK;
CLINICAL ASSISTANT IN NEUROLOGY, VANDERBILT CLINIC, COLLEGE OF PHYSICIANS AND SURGEONS.

IT IS customary on introducing before an assemblage similar to the one I have the honor of addresing now a subject not of a strictly scientific nature, to beg the kind indulgence of the audience for lending its ear to an inquiry seemingly foreign to the chief aims and aspirations of a medical society. Following this custom, which we honor in its observance, I not only ask your attention, but hope to prove in the course of my remarks ample justification for engaging the same. It is sufficient for me to state at the outset that for the first time in the history of international medical congresses the subject for our consideration this evening was recognized as one of such prominence and importance that a whole session of the last Congress at Paris was exclusively devoted to the deliberation of propositions touching upon the mutual relations among the members of the profession and the relation of the profession as a whole to the community, in the midst of which lies its field of activity.[2]

We have occupied ourselves, almost at all our gatherings, frequently to the total exclusion or neglect of routine business, with scientific papers, communications, and clinical demonstrations. These have all been of high merit and of inestimable value to the average practitioner, whose daily laborious routine in the midst of conditions unfavorable to the cultivation of scientific research makes it difficult for him to follow even at long range the rapid progress that is being made in every branch of the great healing art.

The subject, of what is somewhat loosely denominated as medical ethics, has also claimed a goodly share of our consideration, and is destined at no distant future to absorb even more of our attention than it does now.

It occurred to me, however, that we have unduly neglected a subject of utmost importance, one that forces itself, I may say, almost daily on our notice, and which certain occurrences of recent date have made particularly prominent; I allude to the relations between the medical pro-

[1] Read before the Eastern Medical Society, May 10, 1901.
[2] Congrès International de Médecine Professionelle et d'Odontologie Médicale, publié par les soins de M. le Docteur Jules Glover, Paris, 1900.

fession and the community at large, to the rôle of the physician as a social factor. In our self-glorifications over the scientific triumphs achieved by our art and the unbounded enthusiasm that attends every recital of these triumphs, the question of the physician's standing as a factor in the community, of which, we are told, he forms so important a part, has been but lightly and superficially touched. It is only within the recollection of the younger members of the profession that such paramount issues—equally important to the community at large as well as to the profession—as the various medical abuses, the licensing of practising physicians, the hospital and dispensary defects, contract and medical insurance practice, etc., etc., were made questions important enough to be treated outside of the narrow pale of purely professional circles, and legislative aid was invoked on the principle of *salus populi*, the common weal.

Whence comes it that not a single physician's name was adjudged worthy of being inscribed on the portals of the Hall of Fame? The pages of the Colonial as well as the post-revolutionary history of the United States are replete with brilliant names of medical men who took an active part in the affairs, not only of the immediate community, but of the State and Union. To mention but a few,[3] as far back as 1647, we find, in the council of Governor-General Kieft, Dr. John de la Montague, a man of great intelligence and decision of character, a Protestant refugee from France. We find that the Colonists waged war against the Indians under the command of the indefatigable De la Montague, who later signed the treaty of peace with them. Dr. Cadwallader Colden (1688-1776) was "the most conspicuous physician of the eighteenth century." He was made first surveyer-general of the colonies by Governor Hunter; was in direct correspondence with Linnæus, wrote on yellow fever, compiled a history of the Five Indian Nations of Canada, and was a pronounced authority on botany. His intellectual capacities and attainments were great and varied, and he is spoken of by one of his biographers as "known in the scientific and literary world as a physician, botanist, astronomer, and historian."

Among the fifty-six delegates present July 4, 1776, at the signing of the Declaration of Independence, five were physicians, the most prominent of whom was Benjamin Rush, a graduate of Princeton when fifteen years old, professor of chemistry in the College of Philadelphia when twenty-four years of age. He was surgeon-general of the hospitals during the war, and for the last fourteen years of his life treasurer of the United States Mint.

We pass in rapid succession men like Latham Mitchell (1764-1831), a physician, chemist, botanist, and astronomer, the "Nestor of American Science;" David Hosack (1769-1835); John W. Draper (1811-1882), "chemist, physiologist, a many-sided man," especially known as the author of the "Intellectual Development of Europe," "The Conflict Between Religion and Science," etc.; Dr. Valentine Mott (1785-1865), who is said to have tied more arteries for the relief or cure of surgical diseases than any other surgeon; Dr. Samuel Gross (1805-1884); Dr. R. H. Gilbert, the inventor of the elevated railroad (1832-1885), and O. W. Holmes, whom American Medicine claims as much as American poetry; even if we omit men like Morton, though a dentist, Marion Sims, Bigelow and others. And out of this array of men not one was found worthy of honor! Were all these men in their individual or collective activity of less value to the nation than some of our poets, statesmen, or inventors? What truly painful spectacle to witness the inability of a profession that counts among its members many able and intelligent citizens, to cause the enforcement of the existing law against such charlatans as the Christian scientists, "that pestilential aggregation of ignorant fanaticism and unscrupulous fraud," the absurdity and dishonesty of whose methods in dealing with their dupes are evident to a mere tyro. Where are we to look for the causes of such failures? Surely not in our small numbers, for numerically we exceed by far the other liberal professions in this country, and, as compared with other countries, we have proportionately twice as many physicians as Canada, three times as many as England, four times as many as France, five times as many as Germany, and eight times as many as Russia. The average ratio is one physician to 500 inhabitants, but in some States it is as low as one to 350, or even less. In fact, so large is the number and so rapid its increase, that we are dangerously near that condition of affairs which a certain Minister of France—I believe it was Richelieu—threatened to bring about—by creating so many dukes, that it would be a shame not to be a duke, and no honor to be one.

The causes lie first of all in the indifference and apathy of a disunited profession, in the almost total absence of that *esprit de corps*, that co-operation of activity, which is the only means of establishing a firm foothold in the public estimation. The reason for this is again to be found in the remarkable heterogeneity of the elements, not to be found anywhere else in the world, that go to make up the profession here—that great difference in the education and intellectual acquirements of the rank and file of the profession which form the chief obstacle to a full understanding of the aims and aspirations of medicine, in the widest sense of the term, and for which our lamentably-defective medical institutions bear the lion's share of blame. Notwithstanding the undeniable reforms which are taking place in the education of the physicians of to-day and which tend to equalize, as far as it is possible to do so with human beings possessing free will and reasoning faculties, the intellectual standard of the graduate, we are still very far from that consummation devoutly to be wished, when an intelligent and

[3] Dr. W. L. Stowell, "The Doctor Outside of Medicine," N. Y. Med. Jour., Vol. LXIX., No. 22.

respected profession will be able to present a firm, united stand against the encroachments by the numerous quacks into public confidence. We are, indeed, far from such a millennium if, with all our reforms in medical education, justifiable complaints can be heard from well-known medical educators connected with one of the best medical institutions of the country. Thus, speaking of the various branches advantageous to him who intends to study medicine, Prof. F. S. Lee says: "Of these branches, be they few or many, to no one should be given more prominence than to the subject of English—the ability to appreciate, to speak, to write, to understand, good English. The longer becomes one's experience the more vital does this seem, and it is impressed upon one the more because of the serious lack of this ability among American youth, be they college-bred or only school-bred. The despairing cry of the college examiner, "Give me English, or give me death!" finds an answering echo in the breast of every examiner in the medical schools. The examination papers of even those who are graduates of the colleges, and even of those colleges that, recognizing the need of which I write, make the study of English especially prominent, too often teem with grammatical errors and rhetorical crudities. Even the ability to make a plain statement of facts in simple language is frequently absent, and style and literary sense are conspicuous by their rarity. In these days of the wonderful growth of the science and art of medicine, when every physician feels that he must write his book or his occasional article for the journal, and medical literature is increasing in bulk at an alarming rate, the necessity of being able to write according to the accepted canons of good literary taste is evident; and an examination of the medical literature of the day makes equally evident the fact that, in spite of many exceptions, good literary taste there is sadly wanting. This lack should not be laid at the door of the physician himself, but at the door of those who are responsible for his preliminary education. I would not attempt to say where in the course of his education, or how, the desired betterment should come in. That it should be introduced in his youth is obvious, though I sometimes feel that no more effective improvement could be made in our medical schools than the addition to their faculties of chairs of English."

Again, Prof. J. G. Curtis says: "The third deficiency—a crying one—is an insufficient knowledge of the English language, not in its higher flights, but in its plain, necessary every-day aspect. From this last deficiency, alas, not even Bachelors of Arts of the best colleges in the United States are invariably free."[4]

However, in this respect we occupy no unique position, for both our theological seminaries and our laws schools need as much mending, if not more, as the medical schools. Although neither of these professions can claim a greater aggregate of wisdom and intellect than that possessed by the medical profession as a whole, they enjoy a greater share of the public's esteem and wield, as social factors, a far greater power than the physicians in spite of the fact that the latter come in closer contact with the community and their scope of activity is wider than that of either the theologians or the lawyers, for, as some one remarked wisely, there are many who have no property to be cared for, and some with regard to whose possession of soul there may be a question, but everybody has a body which is at times liable to require skilled management to avoid suffering and death, and enable it to do its work; although some bodies, it must be confessed, are hardly worth preserving.

We live in an age of commercialism, and its blighting and corrupting influences have invaded all the ranks of the profession; for as an organic part of the social system it could not escape the tendencies of the age; this is especially true of America where the commercial instinct is so strongly developed as to impart its tincture to every phase of social life. Thus the average physician considers his profession first of all as a business venture, and, surrounded by the intense competition with his own confrères, with the hospitals, dispensaries, contract and insurance physicians, besides the numerous classes of various quacks, the scientific side of medicine is gradually lost sight of, and the great science is converted into a trade. Like the poor, we always have the "hustler" among us, the man who spares no effort, strains every energy of mind and body, for the undeviating devotion to the one aim in view—the pursuit of gain.

Alas! It is very unfortunate and detrimental to the profession as a whole, as regards its standing in the community, that this hustler does not at times hesitate to cast aside self-respect and, in his tenacity of purpose, resorts to means that are dangerously near to dishonest; and though the average man will readily acquiesce in and accept as a matter of fact the predominating influence of commercialism in any other professional pursuit, he is traditionally unwilling to acknowledge it in the physician, and looks askance at any manifestation of this tendency in his doctor.

Were we to pursue a parallel between the medical and the other two most important of the liberal professions, we could hardly attribute any special freedom from commercialism to the rank and file of our professional brethren-in-law, the members of the legal profession. The gentlemen of "the sacred calling," even though not so proficient in purely commercial matters, are nevertheless far from being free from the domination of the sensational instinct, and in them in whom decorum is next to godliness this feature is especially objectionable; the invasion of the houses of vice under the pretext of catching the beast in its lair, the discourses from the pulpit frequently laden with personalities and "invectives which might put to blush the veriest scold," the

[4] Columbia University Quarterly, March, 1901.

public indorsement of quacks and their pernicious products, are but few of the many methods adopted by the gentlemen of the cloth for springing into notoriety, into the glare of public notice. It is, however, true that,[5] "As far as the profane may judge, those disposed to doubtful paths in the pursuit of fame and fortune are but few and they have not gained the approval of the body of their fellows; but those of us who march well to the front beneath the Æsculapian banner and fight upon the frontier of professional propriety are many, and have been honored with the proverbial flattery of widespread imitation." And still can it be denied that either of the two professions of theology and law has a stronger hold on public esteem and affection than the one enjoyed by the physician? I dare say that if any question of public importance were to be propounded for solution to the representatives of the three professions, the one offered by the physician would very likely carry the least weight and importance.

To parallel the exhibition of Christian scientists in treating disease by prayer, let us imagine, in the domain of legal practice, the existence of a sect who were to decide the various differences and disputes that require resort to court or a popular vote, by what is historically known as God's judgments—those extraordinary trials by arms, single combat, by ordeal, etc., in which it was assumed that God would work a miracle to vindicate innocence and to decide what is right and what is wrong. Imagine Patrick and Jones, the famous Rice murder duet, proving their innocence in a single combat with fists and otherwise; fancy great political issues involving paramount questions touching the welfare of great commonwealths—which are but aggregations of individuals—decided in a similar manner. Fancy Mr. Roosevelt and Mr. Bryan engaged in a hand to hand combat to decide an issue on which hangs the fate of a great political party; or to come nearer home, to troubles of our own, picture to yourselves a great platform, say in Madison Square Garden, surrounded by thousands of people, on which Mr. Thomas C. Platt and Mr. Richard Croker are pounding each other most industriously—striking arguments these indeed—each whack accompanied, in the midst of incense, by loud invocations to the Almighty, from the ministers, priests and rabbis, representing all the various denominations of their respective constituents.

Now this is no laughing matter, but the incontrovertible conclusion from the chain of reasoning—alas for poor logic! What absurdities are committed in thy name!—employed by Christian scientists! What ridicule, what a howl of execration would sweep over this land if such a sect were to offer its service in a manner that is being done by the Christian scientists! Human credulity and popular ignorance are just as easily beguiled into trusting the quack and the Christian scientist, as it would be into acquiescing in the results of God's judgment; and as a matter of fact this latter procedure is synchronous in the history of civilized nations with the flourishing period of treating disease by laying on of the hands, corresponding in the history of this country to the period of Salem witchcraft, when Cotton Mather preferred this judgment to any that might be agreed to by any court of men. In many savage peoples treating disease by prayers and the reliance on the judgment of God are prevailing even into this day. Would any body of men—whether in or out of legislative halls—consider the practice of law by relying on the judgment of God in any light but that of an insane delusion, even though like Christian science, this reliance would conveniently take refuge under the cloak of religion? Whereas a similar delusion, but fraught with incomparably greater danger to the commonwealth, has been dignified into a question important enough to be brought up before various State legislatures for solution. Verily a spectacle for the gods! While ascribing to the human mind a remarkable tendency to absorb by preference whatever appears illogical, fantastical and impossible (a tendency which the great sage of Bridgeport, Conn., embodied in the trite saying, "The public likes to be humbugged"), it is not to be denied that the medical profession is to be held to a great extent responsible for the firmness with which all these humbugs take hold on the popular mind. The popularization of medical principles that can be easily made accessible to the great portion of the community is an untilled field in the medical literature of this country.

We have almost no popular works on medical subjects which would command respect of and serve as an authority to the intelligent portion of the community. Those of you who are acquainted with the medical literature of any of the European nations, and especially with the German literature, will easily comprehend how far we are outdistanced in this respect by Europe. And this virgin soil is one of the most favorable culture media for the growth and development of the various popular fallacies that can only be neutralized by the general diffusion of knowledge concerning plain every-day medical truths.

The deeper this subject is looked into the larger its scope appears and the more difficult of disentangling seem the various problems involved therein. The above is but a feeble and certainly very imperfect attempt to depict what was intended to convey to my hearers. However, cause and effect being, though necessarily incompletely, placed side by side, certain remedial agencies suggest themselves; I mean, of course, such as are within our power of application. We are unable to exert any direct influence in improving our medical schools by diminishing their number (as a curiosity let me state here that Chicago with its fourteen medical schools possesses five more than the whole of Russia, or as many as Austria, Switzerland and Denmark combined; St. Louis

[5] Dr. Charles P. Phelps, "The Medical Profession at the Close of the Nineteenth Century," N. Y. Med. Jour., Jan. 2, 1897.

is not to be outdone with her eight schools, Baltimore and Cincinnati possess six schools each, etc.), and consolidating several into one as a department of a University, thus concentrating the clinical facilities, and drawing better financial support from the University, instead of being as at present the poorest endowed of all the educational institutions in the land.

By taking a more active part in the social and political affairs of the community we shall succeed eventually in rooting out that erroneous idea, firmly implanted in the public mind, that the medical profession is always actuated by purely egoistic motives in its dealings with the community. We can influence State legislatures by either directly sending representatives or by bringing pressure to bear upon certain of them in the respective legislatures. It is perfectly astonishing how insignificant—almost non-existing—is the representation of medical men in the State legislatures and especially in Washington. Thus, in the present Fifty-sixth United States Senate there is not a single physician, although there are sixty lawyers, merchants, farmers, manufacturers, journalists, etc., etc.; while in the House of Representatives, out of a total of 357 members, there are but two—mark you, in the whole vast assembly, but two physicians—and a similar state of affairs presents itself in almost every State legislature of the land!

What wonder when questions which are considered as solved as matters of fact in Europe, such as vivisection, which are of vital importance to the pursuit of knowledge, assume here dangerous enough proportions to threaten interference with the study of medicine, and necessitate constant exertions on the part of some of the best men in the profession to counteract the pernicious influence of misguided and ignorant fanatics in the various State legislatures, as well as in the central seat of government. Small wonder, indeed, that all the efforts notwithstanding which have been put forth by large aggregations of medical men, as well as by some of the most influential individuals, the question of the establishment of a National Bureau of Health at Washington for the control and regulation of various matters relating to public hygiene etc., is as far from being realized as it ever was.

The constitutionality of State interference in the regulation of medical practice is a well-recognized fact in almost every State of the Union, and the principle involved in this sort of legislation stands settled and approved by the Supreme Court of the United States, and that of every lesser community before which it has been brought, and still not a year passes without its being assailed in all those States where the law to regulate medical practice has been introduced, after years of untiring efforts, humiliations and prostrate crawling before the politicians; and if constant vigilance were not unceasingly exerted there would be the danger of some politician slipping in certain little paragraphs that would annul the labor of years. Medical men, notwithstanding the peculiar nature of their occupation, should actively identify themselves with the various political and social movements which engage the attention of the community. The modern complicated social machinery has called into existence so many "palpitating" issues of the day, so many questions which force the attention of the intelligent and the public-spirited, that to be in closer touch with the manifold interests of the community is an absolute prerequisite for public recognition and respect, and the physician, least of all professional men, because of the very nature of his professional duties that force on his confidence matters of the most delicate nature in the individual, and those of immense importance, such as public hygiene in the widest acceptation of the term—in the community at large—the physicain can indeed, ill afford to stand at a safe distance from the burning questions of the hour, and then complain of mistrust and clamor for a share of public gratitude. The public esteem gained and the diffidence and suspicion dissipated, the many medical societies must make it one of their most important aims to create sufficient substantial political power to produce a tangible impression on the powers that rule, to be wielded *pro re nata;* the effect of the various dissensions that this may call out will be more than overbalanced by the results of the application of a united effort in a certain definite direction. Create representation in the legislative assemblies of the land and you are enabled to effectively repel the many unjust attacks for which the profession has for such a long time served as a tempting target for such as would not dare to attack in a like manner any other profession. Representation will further the establishment of that *esprit de corps* which forms the very essence of a united profession. Through representation you exert a healthy influence on whatever concerns medical matters, such as medical education, hospitals, dispensaries, unification of State boards of examination, etc., as well as public hygiene, quarantining, appointment of coroners and the like. Now, I am but too well aware of the fact that such recommendations may cause apprehension lest, if adopted, they lead to centralization and this again to so-called paternalism. Such propositions may be relegated by some to the domain of Utopia and dismissed as impracticable or premature; others may stamp them as an invasion into the personal rights of the individual, fostering attempts on the constitutional liberty of the free-born citizen, etc. Such has alway been the hue and cry of the many opponents of the State regulation of the practice of medicine; and listening to them, as I had an opportunity while attending the hearings on this subject before the Massachusetts legislature, I could not help paraphrasing in my mind the famous saying of Dr. S. Johnson about patriotism being frequently the refuge of a certain class of people.

Facts are the best arguments. The system of regulating the practice of medicine has existed for a dozen years or so and already it has resulted

in an undoubted improvement of the general standing of the profession, and if rigorously and honestly enforced it will undoubtedly become a most potent factor in the medical reform movement. Who can measure the gain that accrued to the people at large through the passage and enforcement of these measures in almost every State of the Union?

In conclusion let me repeat what I said on a similar occasion three years ago:[6] "It is high time that our State and central legislatures take a more active hand—guided by discretion and knowledge—in the amelioration of medical affairs of the land. The *laissez faire* system with its resulting individualism run amuck has about reached its highest stage of development. Decisive, intelligent interference will in the course of one or two decades revolutionize our medical affairs, improve the general standing of the physician, and elevate the profession to a position where it shall command the respect not only of the immediate community, but of the whole world. There is an undercurrent in the social life of to-day the rumblings of which are heard by every attentive ear, and which is bound sooner or later to appear on the surface; and that is the tendency to widen more and more the sphere of government and increase its power—wisely and with circumspection—as against the encroachments of individuals or corporations; for no individual however powerful, no corporation of individuals however mighty, can or will benefit the community at large, as can the State, forming a part of the people, kept in check by the people, and legislating for the people."

222 E. Broadway.

AN INTERESTING ACCIDENT OF STAINING.

BY J. O. COBB, M.D.,
OF FORT STANTON, NEW MEXICO;
PASSED ASSISTANT SURGEON, U. S. MARINE-HOSPITAL SERVICE.

IN the winter of 1898, while working with a mount of sputum, I used as a contrast stain methyl instead of methylene blue. In this mount I noticed a rod about three times the size of the tubercle bacillus and shaded light lilac. In other mounts the rods were constantly present in various sizes, but I paid little attention to them, thinking they were accidental air bacilli. Later at the Sanatorium at Fort Stanton, New Mexico, I showed these rods to Assistant Surgeon Ramus, who undertook to isolate them. He could never demonstrate them except with the methyl-blue stain and if this were true it was certainly interesting and such a rod, if a bacillus, should be isolated and classified.

In going into the matter thoroughly it was found to be a crystal of the stain. It was noticed that the presence of carbolic acid and heat produced beautiful crystallization and fresh preparations of the stain gave crystals much more uniform in size and much smaller than in old preparations. The crystallization seems to take place only in the presence of an albuminoid substance.

Incidentally in regard to staining sputum it is well to again call attention to the accident of staining with Sudan III. I acknowledge that it is a good stain for the tubercle bacillus, but it is unreliable. Several have called attention to the crystals found in the mount from this stain; and where we have sputum of a doubtful case Sudan III. must not be relied on, for it deposits crystals that very closely resemble the bacillus. I have in mind one case with temporary cold and expectoration which was stained with Sudan and it was thought that bacilli were present, but staining with all other methods, cultivating, and running through guinea-pigs were negative.

It is well to repeat the warnings that laboratory workers have given against the accidents of staining from old preparations of gentian-violet, methyl-violet, Rosaniline, and Sudan III. In sputum work especially must we use care with these stains. In well-marked cases where the bacilli are plentiful it makes no difference, but where the infection is recent and the diagnosis hard to make we should be prepared to exclude all sources of error and avoid any confusion by being able to say positively that we have, or have not, a tubercle bacillus in the field.

[6] Some Aspects of Medical Practice, Boston Med. and Surg. Jour., Vol. CXXXVIII., No. 18.

MEDICAL PROGRESS.

Fat-splitting Ferment of Stomach.—Further studies on the fat-splitting ferment normally found in the stomach have led F. VOLHARD (*Zeitschrift f. klin. Med.*, Vol. 43, No. 5 and 6) to the following results: (1) The ferment is very sensitive to the action of alkalies, but less so a glycerin extract of the mucous membrane of the stomach, while, on the other hand, it resists the influence of acid more than the extract; (2) The gastric juice contains the actual fat-splitting ferment, the mucous membrane its zymogen; (3) The decomposition of fat does not go on at a steady rate but the action is manifest only at irregular intervals; (4) The reaction is incomplete since independent of the amount of neutral fat present, and only a certain percentage is split up; (5) The law of Schietz and Borissow that the products of digestion are the equivalents of the square roots of the amount of ferment probably also holds true here; (6) In achylia gastrica the secretion of the ferment in question is also diminished; (7) Strong degrees of hyperacidity inhibit the process.

Studies in Hematology.—A very detailed and interesting article on certain structures in the blood, more particularly the granular elements found in pathologically altered erythrocytes is given by E. BLOCH (*Zeitschrift f. klin. Med.*, Vol. 43, No. 5 and 6). He finds that the living protoplasm does not readily take up the aniline dyes and that the degree of its tingeability is in direct proportion to its proximity to absolute death. The various granules and networks described in the red cells are not pre-formed structures, but are precipitated by the action of the fixing agents

and stains employed, yet they give evidence of a certain change, generally degenerative in character, which is going on in the cell. Granular degeneration of this nature is seen in many conditions, such as after experimental poisoning with phenylhydrazine, in Biermer's anemia, carcinoma, lues, tuberculosis, malaria, chronic suppuration, leucemia, rachitis and lead-poisoning. In chlorosis, pernicious anemia, diabetes mellitus, acute yellow atrophy and hepatic cirrhosis it is generally absent. Concerning malignant tumors, there need not be an extensive breaking-down of tissue to cause these granules, since they have also been seen in non-ulcerating scirrhus growths, and with reference to saturnism it seems that treatment does not cause their disappearance. In the red cells of malarial cases there also appear other granules which by some are considered the spores of plasmodia. The author believes that the true granules of degeneration are cytoplastic and not nuclear in origin for the following reasons: (1) Karyokinetic figures and granules may be abundant in one and the same red cells. Since karyokinesis represents a high type of specialization, basophylic granulation on the other hand a retrogressive process, it is obviously improbable that both processes should go on in the nucleus. (2) The relation of the granules to aniline dyes proves that they do not consist of nuclein or nucleinic substances, since, though they stain well with methylene blue, they do not take up methyl green, which is an almost specific reaction for nuclear material. (3) Granules and transitional forms between nucleated and granular cells are not found in the marrow and transitional forms do not occur in the circulating blood. The various forms of degeneration which may go on in normal or polychromatic red cells is thus summed up as follows: Considering both cyto- and karyoplasm, (*a*) *karyorrhexis or karyolysis,* (*b*) basophilic degeneration of the cytoplasm, (*c*) karyorrhexis or karyolysis or both together with cytoplastic degeneration.

Bacillal and Lysoform.—Careful experiments have been made by H. CRAMER (*Münch. med. Woch.,* Oct. 8, 1901) upon the efficiency of the two recent substitutes for carbolic acid, bacillal and lysoform, with the result that he prefers the first-mentioned of the two on account of its cheapness, lack of disagreeable odor and strength, a 1-per-cent. solution killing most organisms inside of 1 to 2 minutes, owing to the physical condition of many tuberculous sputa; however, a stronger solution and longer contact are necessary to insure comparative sterility. The author has fewer words of praise for lysoform, which, unlike bacillal, is not a creosol compound, but a solution of formaldehyde in perfumed soap. It seems to answer the purposes more of a deodorizer and cosmetic than a true antiseptic, for the staphylococcus aureus withstands a 3-per-cent. solution even after one hour.

Treatment of Tetanus.—It has been recommended to treat tetanus by repeated injections of saline solution into the organism, the theory being that the circulating toxin will thus be more readily excreted owing to change in blood-pressure. C. TONITZ (*Münch. med. Woch.,* Oct. 8, 1901) has experimentally investigated this method on animals and since he has lost several concludes that absolute success is not to be looked for in man, for the virus does not entirely circulate in the system, but in part is held combined with the tissue-elements. The tetanic symptoms are, however, rendered less acute and death may be postponed for several days.

The Asepsis of Catheterization.—To absolutely ward of infection during catheterizing, germ-free urine, urinary passages, instruments and lubricants are necessary. E. MANKIEWICZ (*Wiener klin. Rund.,* Oct. 6, 1901) states that it generally is impossible to render the urine sterile, since catheterizing to often is a procedure which must be done immediately and does not permit of preparation. Where time, however, is less pressing, much good can be done in warding off catheter fever by several doses of quinine, salol or urotropine. For the sterilizing of the urinary passages, cleansing of the meatus with benzine and sublimate and irrigation separately of urethra and bladder with saline solution or dilute silver nitrate, is recommended. A much more satisfactory subject is the sterilizing of instruments; those of good rubber or metal can readily be boiled, and it is only the woven-silk catheter which requires a special method, namely, the boiling in a strong solution of neutral ammonium sulphate. Little difficulty is generally encountered in preparing the lubricant; it is best here to use sterile vaseline in collapsible tubes.

Treatment of Anthrax.—A contribution to the therapy of this disease is made by FR. SCHULTZE (*Deut. med. Woch.,* Oct. 3, 1901). The patient under treatment was a butcher who had contracted the disease from an infected cow. His case was characterized by marked edema of face and chest, deep ulcers of the face, much difficulty in swallowing from edema of the throat, severe dyspnea, inflammation of the kidneys, and of larger bronchi, and a general condition resembling typhus. The patient made a complete recovery in four weeks, the treatment employed consisting of local applications of bichloride of mercury solution (1-1000) to the ulcers, and quinine (gr. v, q. 3 h.) and naphthalin (gr. v-x, daily) internally, for the fever and diarrhea respectively. The use of carbolic acid and iodine injections he considers harmful, especially in the face. Hot applications are of doubtful value. Incision, with cauterization, must be done early, before the surrounding tissues are infected, to be of any use. He does not believe it necessary to remove neighboring glands. On the whole, treatment should be conservative, rather than radical.

Potatoes and Diabetes.—Some time since it was announced that a diet of potatoes was favorable to the course of diabetes, producing a marked amelioration in the glucosuria, diuresis and thirst combined with a marked inprovement in the general condition of the patient. This view was first

advanced by A. MOSSE as the result of extensive observations. This investigator now reports (*Jour. Phys. et path. générale,* Sept. 15, 1901) the detailed study of two cases which confirms his opinions of the benefit to be derived from this diet. He submitted the urine and feces of these patients to extended examinations. He shows that the benefit in these cases is to be ascribed neither to defective absorption nor insufficient transformation of the carbohydrates present in the potatoes, the amount of such material voided by the intestine not being materially altered. He believes that the large amount of water introduced into the system on such a diet is an important factor. Furthermore that the hydrocarbons of potatoes are more utilizable by diabetics than has been hitherto supposed. This subject is of importance from both biological and clinical standpoints and is worthy of more extended investigation.

Treatment of Cerebral Arteriosclerosis by Inorganic "Serum."—Following the recommendation of Trunecek of Prague, a number of cases of cerebral arteriosclerosis with persistent symptoms, were treated by LÉOPOLD-LÉVI (*Gaz. Hebdom.,* Oct. 6, 1901) by subcutaneous injections of an inorganic "serum" containing sodium and potassium sulphates, sodium chloride, phosphate and carbonate in distilled water. Cases of hemiplegic character were selected in the first group, to eliminate disease of the medulla; the symptoms observed were motor, sensory and vasomotor, together with alterations in reflexes. In one case 20 injections aggregating 57 cubic centimeters of the mineral serum caused a disappearance of paresthesia of two years standing and a marked diminution of paresis of the left arm and leg; the patient was enabled to resume his occupation after six months of enforced idleness. In another case the symptoms were tingling, pain, paresis, exaggeration of reflexes involving the extremities of the left side, loss of memory, ringing in the ears, disturbance of vision, articular pains. The mineral serum injections amounted in all to 50 c.c.; a notable amelioration of the symptoms followed. The author declares that when reading the reports of Trunecek's success he was inclined to be skeptical, but the remarkable results obtained in his own cases compel him to recommend further trial of this method of treatment.

Peculiar Auditory Effects of Cinchomism.—Ordinary tinnitus aurium due to middle-ear disease never transgresses the limits of pitch from "d-1," 297 vibrations as the lowest point, to the "f-2," 704 vibrations as the highest. C. SEILER (*Med. Rec.,* Oct. 26, 1901) has found that such tinnitus has no effect upon articulation. In cases of tinnitus due to quinine, sodium salicylate etc., a much higher pitch is invariably found, ranging from 1,584 to 3,960 vibrations, being higher when salicylates were used than when quinine was the cause. Furthermore there was a well-marked interference with the articulation of certain sounds, especially those consonant sounds of very high pitch, such as "th," "s," "sh" and "z." It is well known that the hissing of steam makes it difficult for a person standing near to articulate sounds produced by about the same number of vibrations, but it is difficult to understand how this subjective tinnitus could so markedly interfere with articulation and vocalization.

Collapse of the Lung in Pneumothorax.—The question whether complete collapse of the lung does or does not occur in cases of pneumothorax, is still an open one. To answer this question, D. HELLIN (*Berl. klin. Woch.,* Oct. 7, 1901) experimented on puppies, producing in these animals a bilateral pneumothorax. He argued that the animals could be kept alive, in spite of the pneumothorax, provided the lungs were still capable of receiving a certain amount of air. It was found that even with a pleural opening as large as the tracheal circumference, the lung did not completely collapse. The author disputes the statements of König, Landois and Riedinger, who declare that in the absence of pleural adhesions bilateral pneumothorax necessarily causes immediate death. There is no clinical case on record which corresponds to this description, but the physiological and pathological conditions in such a case would be the same as in the animal experiments reported by Hellin.

Non-Parasitic Chyluria.—A number of cases of chyluria have been reported in which vigorous and repeated search failed to find parasites in either blood or urine. Autopsy in some of these showed mechanical obstruction to the lymph-flow. DR. SLOSSE (*Bulletin de la société royale des sciences méd. et nat. de Bruxelles,* July, 1901) adds a case to this list, in which as in many of the others, the ordinary day's urine was clear and contained neither fat nor albumin. If urine were allowed to accumulate in the bladder, or if the patient assumed the dorsal decubitus, chyluria resulted, while lying on the belly had no effect. This intermittence is of diagnostic importance. Chyluric urine contains finely-emulsified fat, much albumin, often fibrin, and sometimes a little blood. On standing a cream-like layer rises to the surface. The microscope shows fine, very refractive oil-globules and larger oil-globules, all animated by the Brownian movement, and perhaps a few leucocytes or strands of fibrin. The author found that the chylous urine deprived of its fat by ether, was capable of making a fine emulsion with oil, and this property he attributes to the large quantity of albumin present. There was no sugar in the urine, though such is found in lymph.

The Worsted Truss.—The simple means of treatment in medicine and surgery are alike attractive to the patient and the practitioner on account of cheapness for the former and ready availability for the latter. No truss for the retention and cure of hernia in children, says J. C. HUBBARD (*Annals of Surg.,* October, 1901), is any better than a skein of worsted. As a rule, a whole skein is too bulky and hence should be halved. It is applied by placing the loop-end

over the external abdominal ring, passing the skein across the abdomen to the left, horizontally across the back, thence forward over the right loin and groin to the ring, through the loop already there, over the internal surface of the thigh and perineum, upward over the buttock to meet the horizontal reach across the back, to which it is tied after the hernia has been replaced and the truss tightened to retain it. This truss irritates the skin only when soiled, can be washed repeatedly until its softness and elasticity are gone and is renewable at a very moderate cost. As in the case of all truss-treatment in hernias, the watchfulness of the mother is as much a factor in the result as is anything else. In about two-thirds of the cases so treated cure or improvement has resulted. In the others operation alone was efficacious.

Epidemic Cerebrospinal Meningitis.—Three types of this disease as it occurs in infancy are described by J. Lovett Morse (*Annals of Gyn. and Ped.*, Oct., 1901). The acute type is represented by a case with excessive cerebrospinal pressure and bulging fontanelle and death in four days. The autopsy showed dilated ventricles, flattened convolutions, and but little inflammatory change. Lumbar puncture, by diminishing the pressure, might have prolonged life. The symptoms of the second or *usual* type, as illustrated in a case, were retracted head, depressed fontanelle, some opisthotonos, crying when moved, waking with a sharp cry, vomiting at onset, not afterward, pupils equal, small and reacting to light, nasal discharge, and Kernig's symptom. There was no ankle-clonus, and no eruption. Later the pupils dilated widely and the fontanelle bulged, but lumbar puncture gave no relief. Death ensued in two weeks. The third or *chronic* form is exemplified in a girl of seven months, who at the onset in November would lie apathetically, the head somewhat drawn back, but at times moved from side to side. She would cry from handling. The abdomen was slightly retracted. The diplococcus intracellularis was found in the cerebrospinal fluid. Apathy became steadily more marked, a mucopurulent nasal discharge appeared, the pupils were equal, dilated and reacted feebly to light, the fontanelle was level, photophobia and lively knee-jerks were present. In April she lay quiet, unnoticing, pupils unequal, reacting slowly to light, without spasm or paralysis except slight internal strabismus. The eye-grounds were normal at repeated examinations. From the onset vomiting persisted, and for five months prior to her death on April 24th, she was fed by gavage or enemata. The loss of weight, however, was comparatively slight. After December 5th the temperature was normal, and at no time was Kernig's sign present.

Transfusion in Shock and Collapse.—Transfusion, or the rapid introduction of fluid into the vascular system, is most frequently performed in cases which are often indifferently described as cases of shock or collapse. But these two conditions differ fundamentally in their pathology and in the treatment they require, as is pointed out by A. P. Beddard (*Guy's Hospital Rep.*, Vol. LV., 1901). In both conditions the surface is cold and anemic, the respirations shallow, quick and often irregular, the pulse of low tension, frequent and small. But there is this fundamental difference between the two, that the case of collapse has lost a large quantity of fluid and the case of shock has not. In shock the veins in the splanchnic area especially lose their tone and dilate widely; the patient has bled into his own abdominal veins, and he suffers from a tremendous loss of arterial blood pressure. The indications in shock are to prevent the accumulation of blood in the abdominal veins by stimulating the vasomotor and respiratory centers; while these continue to act feebly, replace their action artificially (1) by artificial respiration; (2) by placing the patient's head lower than his feet; (3) by firmly bandaging abdomen and limbs. Meanwhile use strychnine and digitalis for cardiac stimulation, and keep the patient warm to encourage his recuperative power. The symptoms of collapse are due to excessive loss of fluid from the vascular system. In cases of severe internal hemorrhage, immediate transfusion is contraindicated as long as the bleeding vessel remains untied; when the bleeding has ceased, if the patient is dangerously collapsed he may be cautiously transfused, per rectum or subcutaneously. Collapse may develop from the continued loss of fluid by severe vomiting and diarrhea, as seen in cholera, summer diarrhea of infants, ulcerative colitis and uremia. Diagnostically it is important to remember that in cases of uncomplicated shock the specific gravity of the blood is not materially altered, but may be very slightly lowered; hemorrhage lowers the specific gravity in proportion to its extent, while injury to tissues without material hemorrhage raises it. By Hammerschlag's method (mixture of chloroform and benzol), the specific gravity of the patient's blood may be rapidly and repeatedly taken.

Asepsis of the Hands.—A surgeon is just as blameworthy if he treats a wound with germs on his hands as is the physician who prescribes a poisonous dose. A. Depage (*Bull. de la soc. royale d. sc. méd. et nat. de Bruxelles*, 1901) washes the hands in water, then in alcohol, then in sublimate solution, and finally rinses in sterilized water. Cultures on agar are taken from about the nails once each operating day. Reporting on the results for sixty-two days, he states that the surgeons and internes almost all gave cultures during the first five days, but on all the other days cultures were obtained only twice. This indicates that the surgeons quickly learned to prolong the washing as much as necessary. A nurse, however, was persistently septic for fourteen days, while medical men, who, a number of times, were asked to assist at operations, could not be made to wash sufficiently long, and always gave positive cultures.

Appendical Operations.—The surgical treatment of appendicitis will probably reach a fixed basis in time. The rules of its procedure in Germany are enunciated by REHN (*Archiv f. klin. Chir.*, 1901, B. 46, Hft. 4), as follows: (1) Severe and intense primary seizures demand immediate operation; (2) after operation all symptoms should promptly decrease; (3) recurrence of grave symptoms may demand another surgical interference; (4) repeated acute attacks always demand removal of the organ.

The X-Ray in the Diagnosis of Renal Stone; Report of Four Cases.—It seems to be true that stones containing mineral salts are more readily photographed than others, yet in two cases reported by P. THORNDIKE (*Boston Med. & Surg. Jour.*, Oct. 17, 1901) the stones were made up largely of uric acid, and in both distinct shadows were evident, while in one of them the stones were shown with considerable clearness, probably due to an admixture of calcic phosphates. In another case where there were present three small calculi of calcic oxalate with a trace of calcic phosphate, the photographer interpreted a shadow which Thorndike himself could not see; there was ample clinical indication for operation here without the X-ray photograph. In the fourth case there was some doubt about the interpretation of the plate; clinically the case called for operation and a complete exploration of the kidney demonstrated the absence of stone, the case proving to be one of hydronephrosis due probably to sagging of the kidney.

Postdiphtheritic Urticaria.—One of the objections to the use of diphtheria antitoxin is the fact that after its use an urticarial eruption occasionally occurs. J. J. WALSH (*Phila. Med. Jour.*, Oct. 12, 1901) reports a case in which, though no antitoxin was employed, urticaria developed at just about the time when the eruption would have occurred if antitoxin had been employed. The author believes that a slight urticaria or erythematous eruption occurs oftener than is reported and has been overlooked because cases untreated by antitoxin are now rare.

Sarcoma of the Uterus in Infancy.—As an instructive example of the tumors to be considered in and about the uterus in infancy, J. LORTHIOIR (*Journal de Chir.*, Aug. and Sept. 1901) reports one of sarcoma in a child three years old. In December, 1900, a small fibrous mass apparently fibroma was removed from the cervix. In March a partial vaginal hysterectomy was done by morcellement. In June a total ablation of the stump of the uterus and appendages was done by the abdominal route, for an enormous recurrence which filled the true pelvis. Death occurred by shock. The autopsy showed involvement of the mesenteric gland. Microscopically the first tumor removed was fibrous and all the tissue ablated at the other operations was more or less sarcomatous with small round-cells.

Pus in the Uterine Adnexa.—After reviewing the literature and their own experience on the subject of collections of pus in the uterine adnexa, L. MANDL and O. BURGER (*Archiv f. Gyn.*, 1901, Hft. 1, B. 64) state their estimate of the vaginal and abdominal routes of evacuation to be the following: (1) Other things being equal, they always prefer the vagina. (2) In double-sided purulent inflammation of the adnexa abdominal bilateral salpingo-oöphorectomy is now rarely done at their clinic. The operation has all the disadvantages of any laparotomy and presents no advantages in the line of permanent results. (3) Unilateral abdominal salpingo-oöphorectomy can be considered only when the disease is certainly focal on one side and the other side has surely escaped. Even then it is preferable to aspirate and determine the virulence of the pus. (4) Abdominal section is *per se* reserved for all cases which are inoperable per vaginam. (5) The vaginal route is the better in the usual run of cases when the inflammation is unilateral, bilateral and chronic. They have had the best immediate and remote results with it. (6) The advisability of a one-sided vaginal operation is only questioned when it is manfest that the uterus is normal, the opposite side intact, the pus on bacterological examination not virulent, and the abscess evidently well walled from the general peritoneal cavity. (7) Vaginal incision is, however, to be executed only under definite conditions. Some of the newer procedures with the purpose of heading the pathological processes are not to be brought into competition with it. Likewise some of the conservative operations must be recognized, but their final result in their hands does not make them first choice. (8) Abdominal incision must be reserved for those rare cases of purulent inflammation about the uterus where the pus-tumor is best opened through the abdominal walls.

Cancerous Inoculation.—Recurrence of carcinoma by pure inoculation has always been a disputed question, with the affirmative evidence although slowly yet probably surely accumulating. The following summary of what appears to have been such a case is given by R. SCHAEFFER (*Zeitschr. f. Geburtsh. u. Gyn.*, 1901, B. 45, Hft. 3) in these succinct terms: (1) The case was one of recurrence in the abdominal parieties, after at total extirpation of the uterus by the abdominal route along with the manifestly-involved large lymph-channels and nodes. The retrograde recurrence in or about the remnants of the genital appendages did not occur, although that would be the site and the manner one would reasonably expect; (2) the extirpated organs, especially the ovaries, and the recurrence in the parietes showed alike adenocarcinoma; (3) the recurrence in the abdominal wall was also the only one discoverable clinically and by microscopical examination at the time of the operation. Segments removed there showed that it was developing entirely anterior to the deep fascia having left the peritoneum entirely intact; (4) the removal of the brittle, broken-down mass appears to have been the source of direct cancerous infection.

Large Ventral Hernias.—The immediate results of the following procedure in large ventral hernias with separation of the recti have been very flattering states A. HAMMESFAHR (*Centralbl. f. Chir.,* 1901, No. 38); that the ultimate and functional results are not yet determined, because all his patients have been too recently operated on. The first step in the operation consists in removing as wide a segment of skin and the underlying fat as possible, from the symphysis pubis to the ensiform cartilage. The hernia is now treated by reduction, the sac being unopened. The rectus sheath is next opened in the middle line from end to end and the muscle bellies made free within it. The sutures, of wire, silver or aluminium-bronze, pass through the anterior sheath of the rectus and the muscle at or near their lateral limits, then between the muscle-belly and the posterior sheath toward the middle line, then forward through muscle and sheath. They then cross the middle line step-by-step in the reverse order, finally emerge at the lateral border of the sheath of the rectus. When tied the muscle bellies come together, folding slightly inward with the anterior sheath similarly folded inward lying between them. The skin is then closed in the usual manner.

A Natural Inelastic Uterine Balloon.—After suitable preparation a pig's bladder forms a cheap, universally available and, according to C. BAUMM (*Centralbl. f. Gyn.,* 1901, No. 38), entirely satisfactory obstetrical uterine balloon. The bladders can be secured in various sizes, from very small to that of the fetal head. The neck of the bladder is tied with tape or other flat medium about a small flexible tin tube, with a collar to prevent slipping. A flexible staff is passed up this tube into the bladder and by this means the balloon is introduced into the cervical canal. The preparation of the bladders is the following: Immersion for eight days in an alcoholic solution of corrosive sublimate, 1 in 180 parts. Storage after that in 96 per cent. alcohol. Ether is not advised, because after soaking in it the bladders are porous and leak. The bladders out of alcohol are stiff. Warm lysol solution prepares them for use.

Gastric Syphilis.—Truly local gastric syphilis is too often not diagnosticated, says W. S. FENWICK (*Lancet,* Sept. 28, 1901), and he reviews the symptoms in the following terms: Extremely severe nocturnal pain, infrequent hematemesis, active recurrent vomiting and obstinacy to all except antisyphilitic treatment are the cardinal features. The pain is due to the ulceration of the gumma, epigastric in site, usually provoked by solid, infrequently by any food, at times practically constant, even when the stomach is empty, at such times reaching its acme at night and radiating over the entire abdomen, and into the neck or upper and lower extremities, very commonly accompanied by syphilitic pains and tenderness in the long bones and the cranium and epigastrium, and by flatulence, acid eructations, burning in the throat and vomiting. Emesis is another conspicuous feature at first occurring only with the crises of pain, later after the secondary general gastritis is present following every meal and sometimes showing exacerbations which last many days, and depreciate the patient greatly. Through loss of nourishment, the appetite may be excessive. Cachexia or profound anemia is always secondary. Scanty neutral rather highly phosphatic urine is present. Hematemesis, the usual sign of round ulcer and necrotic cancer, is rather rare because the obliterating endarteritis prevents it. If the liver and spleen are seats of syphilitic lesions and the portal circulation is engorged, then the bleeding may be extreme in degree and persistence. Antisyphilitic treatment is well borne and rapidly relieves. The differential diagnosis is between simple, syphilitc and cancerous ulcer and tabetic crises in the stomach. Syphilitic ulcer is distinguished from simple ulcer by the excessive pain often nocturnal alike in the stomach and the long bones and by its yielding to antispecific medicies and presenting a much more profound anemia and emaciation. Gastric cancer for the relative age of the disease is still more active in depreciating the patient and may give a tumor on physical examination. Gastric crises in tabes dorsalis come at irregular intervals, can usually not be foreseen and frequently have no relation to digestive processes.

Microscopical Gynecological Diagnosis.—The detritus removed by curetting from the uterus should in case of any doubt be examined microscopically. Such a procedure will distinguish the benign from the malign conditions, as is briefly indicated by BROUHA (*Gazette de Gynecologie,* Sept. 15, 1901). Glandular endometritis presents multiplied, corkscrew-like, elongated glands instead of the straight normal glands, hence its other name hypertrophic. In hyperplastic endometritis the number of the glands is increased either by a dipping downward of the epithelium or by a bifurcation of already existing glands or by both combined. Interstitial endometritis presents augmentation of the connective tissue elements, especially near the surface of the mucosa. Sometimes while the superficial layers are in a state of interstitial inflammation, the deeper will be either hypertrophic or hyperplastic. Clinically the catarrhal cases are usually hypertrophic, the painful interstitial and the hemorrhagic are all three combined. Placental retention is shown by chorionic villi. Old cases may be difficult, because the cell arrangements have changed. Post-abortion endometritis and sometimes ectopic gestation are best shown by the correlation between large masses of dead or dying cells comprising the old decidua and similar masses of cells characteristic of pregnancy, *i.e.,* hyperplastic. Membranous dysmenorrhea, in addition to the clinical membranous cast of the endometrium, shows a high grade of interstitial hyperplasia with decrease in the number and alteration in the arrangement of the glands. Benign hydatiform moles present vari-

ous hyperplasias, myxomatous in the stroma and chiefly hypertrophic in the villi. Deciduoma malignum is a network of cells multinuclear and vacuolated. Uterine carcinoma may be found in its early stages, and any of its types, glandular, epitheliomatous, etc. Malign adenoma may also be discovered before it has gone far. Sarcoma with its predominating connective-tissue basis is also always to be looked for. Such examinations will always be of advantage to the patient and aid the physician in his choice of treatment.

Acid Intoxication of Diabetes in Its Relation to Prognosis.—While it is well known that diabetic coma is regularly associated with the excretion of large quantities of organic acids, comparatively little attention has been given to the study of the excretion of such acids during the course of diabetes previous to the coma. C. A. HERTER (*Jour. Exp. Med.*, Oct. 1, 1901) reports the examination from this standpoint of twelve cases of diabetes at different stages of the disease. Three shortly before or during coma showed large amounts of these acids in the urine. Four showed such increase several weeks before coma. In five, of which the outcome is not yet known, there was a fair increase. The estimations of organic acids present was stated in terms of oxybutyric acid because this is the preponderating organic acid present in diabetes. The amounts of glucose and organic acids present are usually parallel, but this is not always the case. The condition of diabetic coma is preceded by a period of days, weeks or months, in which there is a large excretion of these acids and patients whose urine show this condition are in danger of coma. A patient passing 30 grams of these acids daily may have sufficient energy and strength to be about and perform considerable work. A patient who has been excreting a very small amount of these acids and has gained weight may within a few months show the presence of considerable quantities of such acids and die in diabetic coma. When the urine shows only a small amount of these acids there is no immediate danger of coma, but such patients are liable to most of the complications which threaten diabetics. The amount of glucose present is not always a guide to the quantities of these acids being excreted unless the amount of glucose is large (200 grams). The acid intoxication is an important and dominant factor in the prognosis of this disease and frequent estimations of the amount of organic acids present should be made. The withdrawal of carbohydrate food frequently leads to a marked reduction in the quantity of organic acids excreted.

Cyclic Albuminuria.—In recent years considerable attention has been directed to the transitory or intermittent appearance of coagulable proteids in the urine of apparently healthy individuals. This condition has been designated as "physiological albuminuria," but much dissatisfaction has been found with this term as it is considered by many that all types of albuminuria are pathological. L. B. MENDEL and D. B. HOOKER (*Jour. Exp. Med.*, Oct. 1, 1901) have studied a case of cyclic albuminuria in a young man, twenty-four years of age. His height was 5 ft. 7 in. and his weight 126 lbs. The blood-count gave 5,200,000 reds and 5,100 whites. In making the observations the urine was collected at hourly or two-hourly intervals during the waking hours, after noting the specific gravity, volume and reaction it was filtered and heated for a half-hour or more in a boiling water-bath, a few drops of acetic acid being added when necessary to facilitiate the coagulation of the proteid. The latter were removed by filtration through paper, washed free from chlorides and dried to constant weight. During seven days' observation the average daily amount excreted was 331 milligrams. No relation was observed between the amount excreted and the diet consumed. No rise in proteid material was observed as the result of muscular exercise. A marked influence was observed as the result of posture all proteids disappearing with the maintaining of the horizontal position. No relation was observed between the volume of urine and the amount of proteid excreted. The attempt at the present time to refer physiological albuminuria so-called to attending circulatory changes in the kidney is nothing more than interesting speculation.

Experimental Data Concerning Hypodermic Injections.—This subject is of interest as applied to hypodermic medication. The general conception has been that the larger the amount of fluid employed the more effective the filtration and the better the absorption, so that it is possible to increase the effect without increasing the dose by augmenting the amount of fluid injected. S. J. MELTZER (*Jour. Exp. Med.*, Oct. 1, 1901) considers this subject from an experimental standpoint. He utilized rabbits and employed strychnine for hypodermic use on account of its characteristic reaction and the short time in which a decisive response can be obtained from its use. In the first series of investigations he endeavored to ascertain whether with a given amount the effect produced could be increased by extending the area of injection. He found that .9 milligram of strychnine distributed in injection amongst three extremities produced tonic and clonic convulsions, the first attack being twenty-seven minutes after injection. Five days later the same animal was injected with 1 milligram in one leg. No effect was produced. In another series he employed various doses of strychnine in different dilution; 8 milligram in 1 to 10,000 dilution produced no effect; 6 milligram in 1 to 200 dilution produced marked convulsions in eleven minutes. The same animal was used in both experiments, the interval being five days; .5 milligram in one-per-cent. solution kills a rabbit in a few minutes, while nearly twice as large a dose in 1 to 20,000 dilution produces no effect. This work shows that the two governing factors in the effectiveness of hypodermic medication are: (1) the area of the distribution of injection, and (2) the concentration of the injected solution.

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THE BENEFIT ORDER AND THE PHYSICIAN.

THERE are, as every active practitioner knows, in almost all parts of the world certain fraternities, orders, societies and lately even companies whose sole object it is to secure medical care "by contract" and at "wholesale rates." Such bodies, too often irrespective of the quality of the medical care they secure, hire the unsuspecting new graduate and, giving him a paltry few hundred dollars a year for his services, run him to death with work which at even the minimum usual rate for individual calls will always amount to at least from three to ten times the stipend given by the society "employing" the doctor.

In Europe these orders have increased in number so rapidly and so enormously in membership that the question has taken a serious meaning as to the means by which the individual practitioner shall perform his duty to society and to his family. We have already in our columns called attention to the "strikes," pitiable because undoubtedly necessary, which have taken place among the physicians in Munich and Bamberg, because they found their fees cut to about *nineteen cents* per visit by these conditions.

In France, recently, the Société Médicale du Neuvième Arrondissement referred the question to a committee of prominent members whose report we here quote almost verbatim, as it may serve as a warning to us in this country of the possibilities in such cases, since this vampire is already present in this country, and because we believe that no right-minded physician will so demean himself as to submit to such an imposition if the facts are known.

The report of A. Gardette, Chairman (*Gazette de Gynecologie,* Aug. 15, 1901) reads: "I ask your permission to review briefly the facts which are at the bottom of the inquiry addressed to you by our confrère (M. Lacaille) for attention and advice. A society, and later, several cooperative societies, waited upon him with the request that he remit part of his fees entirely for their benefit and that of their fellow members—in other words, interference was sought by third parties in the exercise of our profession, and this was purely by intermediaries and commissioners who love to live only by the work of others. Such aim to place themselves between the physician and the patient only to take much of his income, without any benefit whatever in return, although often at the cost of his health he has to struggle to get his means of livelihood. Shall we permit these parasites to suck away our slender support? Shall we warn all those physicians, who are inclined to look solely at their own temporary good and to neglect the good of the profession in general, that they will lose more than they gain?"

Such is in brief the situation outlined by M. Lacaille. The aim of these organizations is simply to make themselves the brokers, the physicians their clerks, and the patients the wares. The committee recommends "(1) that the society send a circular to each practitioner in the arrondissement warning him of the fallacy and of the encroachments of these societies; (2) that the society recommend to each of its members a campaign against these societies through the medium of the medical press; (3) that the society send a memorial to the faculties of the medical schools requesting yearly instruction to the outgoing classes upon the aims and fundamental principles and fallacies under which these cooperative bodies operate; (4) that the society send a communication to other medical societies, which may take such action as they see fit."

This hint should be early taken and the suggestion of any connection with such bodies should never be entertained, else the realization

of the blunder will be late and withdrawal from the contracts will be found embarrassing.

INSANITY, CRIME AND THE MEDICAL EXPERT.

IN the olden days, when a man was arrested for a capital crime (in this country), little thought was expended upon the question of his mental responsibility, unless, indeed, it was plainly obvious, even to the most unobservant layman, that the criminal was likewise a raving maniac.

In recent years, the American alienist and criminologist, inspired by the researches of the Old-World investigators and desirous of extending the doctrines of psychopathology, has practically revolutionized the ancient order of things and revolutionized them to such an extent that it has really become a serious question in the minds of many people as to whether the new ideas do not threaten to defeat the ends of justice. By this we mean that it has almost come to obtain at the present day that it is difficult for a criminal to escape having insanity thrust upon him as a plea for irresponsibility, when brought face to face with justice on the charge of having committed a capital crime.

It is a well-known fact that the pursuit of science will oftentimes lead men far astray from the paths of common sense, and it has long seemed to us a timely question to ask whether the (at present) much-used plea of irresponsibility which the criminal lawyer, so-called, so tactfully handles at the instigation of the alienist, may not be only another index of the latter's scientific zeal gone wrong.

Nearly every one has enough of the milk of human kindness in his breast to be willing to concede that the taking of a human life under certain circumstances could have been none other than the work of a maniac, but it does grow wearisome to take up the paper day after day and find the plea of insanity entered as a matter of routine in murder trials. So commonplace, indeed, has such a plea become that it has for some time been the frequent theme of the paragrapher and the comic editor. We hear much from them of "The Insane Murderers' Trust" and like nonsense. Nor is this the only evil that has resulted. Only the other day, in a Massachusetts court, the jury deliberately sentenced to jail a murderer, who had been pronounced by experts both for the prosecution and for the defence a most dangerous paranoiac, on the ground that the public was tired of seeing criminals who had committed capital crimes temporarily confined in insane asylums and then allowed their full personal freedom to continue to menace the community. One learns with a sense of almost horror of such a decision and yet it is impossible not to feel that it is, in a sense, only the return of the boomerang cast by the hand of the alienist.

Curiously enough, in the very wake of this absurd decision somnambulism is set up as a defence by a Massachusetts man charged with attempt to murder his wife and a patrolman. Such a defence would be ludicrous enough in any case, in that the distinguishing feature between the merely somnambulistic state and the "twilight" condition of consciousness sometimes observed in epilepsy is that in the former there is a marked absence of all impulse to deeds of violence, so common to the latter. In the case in point it was not only shown by the Government that long existing domestic infelicities culminating in a suit for divorce were present as a motive for the shooting, but it also appeared that the defendant's somnambulistic condition was of such remarkable depth that he didn't wake up until he had attempted to shoot the patrolman who came to take him into custody. This case, by the way, also presented that stock feature which characterizes all of its kind—amnesia. The insane murderer's amnesia is really most remarkable, covering, as it usually does, every incriminating circumstance in reference to the crime and—practically nothing else. And yet in the case just quoted, the alienists offered the theory of somnambulism with all its attendant vagaries; in the full confidence of the scientific excellence of their tenets. They failed, however, to convince the court.

In the face of these facts we are reminded forcibly that medical diagnosis is, after all, a nice balance of probabilities rather than possibilities. Consequently it behooves the medical expert in cases such as we are discussing to appreciate that the public at large, outraged by the commission of a heinous crime, bears with natural impatience attempts to shield the perpetrator of such crime on the plea of irresponsibility based on purely theoretical considerations or upon wire-drawn sophistry.

It is a perfectly laudable ambition to elevate the standards of psychiatry from the almost miry stratum in which they have lain for many years to the scientific levels to which they deserve to attain, but if to accomplish this there must result a serious clash between science and sterling common sense, it appears inevitable that opprobrium will be cast upon the profession and that strict justice will not always be accorded.

THE INFLUENCE OF VIRCHOW.

THE great import of Virchow's work and teaching for modern medicine is most convincingly shown in a series of special articles contributed by eminent pathologists and physicians of many lands to a jubilee number of the *Berliner klinische Wochenschrift.* Once more that "common admiration for great and good men that draws nations together" is placed in evidence.

The anatomy and pathology of disease have been studied during the past century with greater zeal and success in France and Germany than in England, writes P. H. Pye-Smith. Many of the captains of science have passed away, but Kölliker, Pflüger and Virchow still represent the great work of Germany in histology, physiology and pathology. Many Englishmen have enjoyed the benefit of Virchow's personal instruction; most of all has his influence been exerted in England through his three great publications, the Cellular-pathologie, the Krankhafte Geschwülste, and the Gesammelte Abhandlungen. Virchow's work on tumors replaced by orderly arrangement and objective facts what was before a tangled wilderness of old superstitions and modern disconnected observations. Most far-reaching have been the effects of Virchow's insight into the relation of diseases to the three primary layers of the embryo; of his discovery of the neuroglia in the nervous centers, the cellular structure of connective tissue, the mesoblastic origin of sarcoma; of his distinction between parenchymatous and interstitial inflammatory diseases of the kidney. Scarcely less worthy of note was his masterly disentanglement of the confused facts and theories concerning pyema, phlebitis and embolism.

Chance's English translation of the Cellular-pathologie appeared in 1860 and seven American editions of the work were exhausted in a few years. The edifice of pathology, founded on Virchow's great work, became its great temple of medicine not only for America but for the world. The new era, says Abraham Jacobi, ceased to have any place for "schools" of medicine in the old sense of the term; "systems" and "rational" medicine ceased to exist. American physicians are largely indebted to Virchow for the knowledge that every crisis is necessarily secondary to a local disturbance; that while parenchymatous inflammation may represent an enhancement of nutritive or metabolic processes, it does not imply an increase of power; that both pathological anatomy and bacteriology are properly to be regarded only as aids to practical medicine. Since Virchow's advent disease processes have no longer been sought in this or that region or organ of the body, but in the cell or cell-group, and efforts have been made to adapt therapeutic measures to this view. Virchow's early popularity in the United States was increased by his appreciative and learned discussion of the sanitary achievements of the Federal army during the Civil War. The needs of the practising physician and the humanitarian were ever in his mind; in the closing chapter of his Cellular-pathologie he expresses the hope that his teachings may prove of value in the clinical practice of his pupils.

In Austria a brilliant epoch for pathological anatomy was inaugurated by the activities of Rokitansky, who struggled not only to establish the subject on a scientific basis, but to win for it its righful position as leader of practical medicine. But Rokitansky was so strongly influenced by the prevailing biological views that he was led into erroneous speculations as to the causation of morbid changes; and his humoral pathology, which regarded a change in the constitution of the blood as the forerunner of all morbid anatomical conditions, held sway until Virchow appeared with his contention that the cell is the fundamental element alike in the healthy and the diseased organism, and that all cells are developed from pre-existing cells. Virchow's pupils were called to important chairs in the great Austrian seats of learning, and the force of his personal example in scientific research was thus added to the spiritual influence of his writings. One of his most distinguished disciples, Klebs, professor of pathological anatomy at Prague, accomplished far-reaching results by applying the experimental method to the investigation of the causes of infectious diseases.

Cornil, who was elevated to the chair of pathological anatomy in Paris in 1882, succeeding Charcot, went to Berlin twenty years before, at the recommendation of Claude Bernard, to receive from Virchow his first lessons in the technic of pathological histology and in autopsy methods. Hence Cornil is one of the first to acknowledge his indebtedness to Virchow for the general trend of his work; his writings are applications of the general principles laid down in the Cellular-pathologie. Sweden, Denmark, Greece, the Netherlands, Italy and Russia, speak as with one voice of the mighty influence of Virchow upon the study and practice of medicine throughout the civilized world. *"Ses glorieuses decouvertes n'appartiennent désormais ni à la critique ni mème à l'eloge."*

METROPOLITAN NUISANCES.

The Board of Health has been making progress. It has settled the question of the tunnel nuisance in a way which can be satisfactory only to the railroad, and so leaves the subject practically unsettled. By unroofing the tunnel the gas and smoke, which were formerly almost the exclusive property of patrons of the road, will be distributed more generally and generously among the residents of Park avenue instead of being reserved entirely for those who pay fares. Electric traction in the tunnel and the millennium may be confidently expected to arrive together. The matter of negligence of the Street Cleaning Department which, aided by the work of excavating the rapid transit tunnel, has given the city more dirty and unhygienic streets than have been seen for several years, will be taken off from the shoulders of the Board of Health by the approaching election, the only apparent relief for these modern Augean stables.

There are, however, two more matters concerning the public health which might well be considered and acted upon by the Board of Health. These were both mentioned in the report of the Committee on Hygiene delivered at the annual meeting of the Medical Society of the County of New York on October 28th. They are the perennial grievance of open cars on the Metropolitan Street Railway in unseasonable and stormy weather, and the acid fumes which make a trip on the 34th street Crosstown cars an undeserved punishment, a foretaste of future possibilities. A letter was sent in the name of the County Society to the President of the Metropolitan road calling attention to the frequency with which open cars are run after the cold season has begun and during protracted storms, and asking for information. With the courtesy frequently accorded to communications which contain nothing of value financially to the recipient, this has remained unanswered. The open or so-called "pneumonia cars" are possessed of so large a carrying capacity that we may be pardoned for sharing a popular opinion that their protracted use without regard to the welfare of the public is dictated by a mercenary spirit.

The acid fumes, arising from the storage batteries of the 34th street branch, are sufficiently annoying to persons in perfect health, but to those with any predisposition to laryngeal or bronchial affections or any one suffering from such troubles, the irritating fumes are enough to bring on an acute attack.

These nuisances are commended to the attention of the Board of Health with the earnest hope that the solution of the difficulties may be satisfactory to the public rather than to the railroad.

ECHOES AND NEWS.

NEW YORK.

Execution of Czolgosz.—The assassin of President McKinley was electrocuted Tuesday morning. The autopsy was conducted by Dr. Carlos F. MacDonald, Dr. E. A. Spitzka and Dr. Gerin, the prison physician.

The skull was found to be of normal thickness. It was the unanimous agreement after microscopical examination that the brain was normal.

The following brief statement was issued:

"The autopsy was made by Dr. Edward A. Spitzka of New York, under the immediate supervision and direction of Dr. Carlos F. MacDonald of New York and Dr. John Gerin, prison physician. The autopsy occupied over three hours, and embraced a careful examination of all the bodily organs, including the brain. The examination revealed a perfectly healthy state of all the organs, including the brain. All of the physicians who attended the execution were present at the autopsy, and all concurred in the findings of the examiners."

Skene Women's Hospital to be Abandoned.—Steps were taken last week in the Kings County Supreme Court for the dissolution of the Skene Hospital for Self-Supporting Women and Children, which was one of the cherished dreams of the late Dr. Alexander J. C. Skene, the well-known Brooklyn gynecologist. The petition for the voluntary dissolution of the corporation was signed by the surviving directors, John Claflin, Hugo Hirsch, Charles A. Moore, president of the Montauk Club; Alexander E. Orr, president of the Chamber of Commerce; George Foster Peabody, Royal C. Peabody, William H. Snyder and Spencer Trask. Judge William B. Dickey ordered a hearing on the matter to-morrow. Dr. Skene was one of the best-known gynecologists in the country, and was a writer and expert upon women's cases. It had long been an idea of his that women and children should have the benefit of expert special treatment, and that many of those who most needed it were unable to pay the large fees of the competent specialist. In order to remedy this he proposed to erect a hospital in which women who had to support themselves and children could be treated without expense. He interested in the matter several of his wealthy friends, and the hospital was incorporated. Before the building which he had planned could be constructed, Dr. Skene died. The directors made up their minds that without its originator the scheme could not be put through, and the action of yesterday was the outcome of the decision.

New York State Association of Railway

Surgeons.—The eleventh annual meeting will be held in the New York Academy of Medicine, Thursday and Friday, November 14 and 15, 1901. The following program has been arranged:

Special Topic: Railway Sanitation.—Car Sanitation, by G. P. Conn, M.D., of Concord, N. H.; Transportation of Passengers Sick with Contagious Diseases, by J. N. Hurty, M.D., of Indianapolis, Ind.; Necessity of Disinfection, by M. J. Rosenau, M.D., of Washington, D. C.; Methods of Disinfecting Cars, by William H. Park, M.D., of New York; Medico-Legal Features, by L. L. Gilbert, Esq., of Pittsburg, Penn.; General Discussion, opened by Walter Wyman, M.D., of Washington, D. C., and C. O. Hunter, Esq., of Columbus, Ohio; President's Address, by W. R. Townsend, M.D., of New York City; Account and Results of a Wreck, by Henry Flood, M.D., of Elmira, N. Y.; Railway Accidents, Their Cause and Prevention from a Psychological Standpoint, by R. S. Harnden, M.D., of Waverly, N. Y.; Contusions of the Abdomen, by Walter Lathrop, M.D., of Hazleton, Penn.; Injuries of the Abdomen, by F. H. Wiggin, M.D., New York City; Contusions of the Abdomen, with Injuries of the Viscera, by L. W. Hotchkiss, M.D., New York City; When to Amputate, by H. P. Jack, M.D., of Canisteo, N. Y.

Dinner to Dr. Waldeyer.—Last Saturday over 100 members and guests of the German Medical Society of New York met to do honor to this celebrated anatomist who recently represented the German Universities at the Yale Bi-Centennial, held the week before last at New Haven. Among the invited honorary guests were Drs. W. H. Carmalt, W. H. Welch, H. M. Biggs, I. Van Gieson, James Ewing, Smith Ely Jelliffe, Frank Foster and G. F. Shrady. Dr. D. von Skal, President of the Society, acted as presiding officer; Dr. Geo. W. Jacoby as toastmaster. Drs. A. Jacobi, W. H. Welch and C. Beck were among the speakers.

A diploma of honorary membership of the "German Medical Society" was presented to Dr. Waldeyer.

PHILADELPHIA.

Presbyterian Hospital.—An addition to the facilities of the Presbyterian Hospital has been made in the shape of a new department just opened for the care of women upon whom abdominal operations have been performed. The building is the Dulles Memorial Ward to which an extension has recently been added. The department is to be under the special charge of a separate corps of nurses who are not to come in contact with other departments of the hospital.

Smallpox.—Cases for the past week numbered 59 (a decrease of 10), and deaths 10, the same as the previous week. There are now 233 cases in the city.

Estate of Dr. Da Costa.—The personal estate of the late Dr. J. M. Da Costa has been appraised at $118,000, of which $90,000 is in life insurance policies. The real estate is believed to be worth as much more.

Powerful Remedy for Smallpox.—During the present epidemic of smallpox the following from a daily paper is of interest whether or not its directions are followed. It is said to emanate from the Sisters of Charity in charge of St. Joseph's Orphan Asylum in this city, and is said to be a substitute for vaccination as well as a cure for smallpox. The prescription is: "One grain sulphate of zinc, one grain of foxglove—sometimes called digitalis; mix with two tablespoonfuls of water; when thoroughly mixed, add four ounces water. Take a teaspoonful every hour for 12 hours."

Pure Food Ruling Excites Manufacturers.—A recent ruling of Dairy and Food Commissioner Cope is causing much comment among dealers and consumers of preserved foods. The ruling is as follows: "Articles of food that can be prepared by the use of improved processes, so as to preserve them from decay or change, shall have no preservative added other than salt, syrup, sugar, saltpeter, spice, vinegar, or wood smoke." This prohibits the use of sodium benzoate which has largely been employed since the use of salicylic acid was prohibited. Manufacturers of preserved foods will probably carry the case to the Supreme Court if the Dairy Commissioner attempts to enforce the ruling.

Philadelphia Association of Retail Druggists.—At the October meeting resolutions were passed commending publicity as the best remedy for the free dispensary evil. The supplying of medicines to the outdoor poor of Philadelphia came under discussion. "The plan agreed on by the Committee and Superintendent Geary, which is to be urged upon City Councils, is that one druggist in each ward is to be selected to fill the prescriptions of the city 'Poor Physicians' for which he will be paid a salary of $200 yearly, and that the drugs used are to be supplied on requisition from the City Hospital as needed and charged to the druggist. At the end of the year the prescriptions and the requisitions for drugs will be compared. If more drugs have been requisitioned for than is shown by the prescriptions to have been used the excess will be deducted from the druggist's salary."

CHICAGO.

University of Chicago Medical Society.—A society with this name was organized October 21st by the University of Chicago. The first meeting was held at the Hull Physiological Laboratory, when Dr. J. Loeb read a paper on "The Influence of the Valency and Possibly the Electrical Charge of Ions upon their Antitoxic Effects." Dr. Albert Peacock also followed with a paper entitled "A Case of Myosis in Man." Dr. Henry H. Donaldson, head professor of neurology, was elected president of the society.

St. Gerard's Hospital Insolvent.—This hospital, which was established about a year ago,

is now declared insolvent, and a receiver has been appointed. The liabilities are $8,300, with assets of $2,400. The projectors of the hospital intended to care for as many charity patients as the patients who pay could support. For several months the charity patients exceeded in numbers those who could afford to pay, and the affairs of the hospital became worse. The income was not sufficient, and contributions practically ceased.

Public Health Matters.—The laboratory investigations of the Chicago Health Department foreshadow an increase of pneumonia and of diphtheria, the germs of these diseases being found with increasing frequency in the examinations. There is also some increase of scarlet fever apparent, especially in the northwestern portion of the city, where all the contagious diseases continue to spread. The outbreak of scarlet fever in Rogers Park has been practically suppressed, only five cases remaining at the close of last week.

Public Hospital of Moline.—The Moline Public Hospital staff has unanimously adopted resolutions asking the Mayor to remove the present board at once, and in its place appoint a board of three physicians. Also to appoint an Advisory Board, to consist of physicians who shall be made regular members of the board as soon as the law can be changed by the Legislature, making the board legally to consist of seven members, instead of three, as at present.

Changes at County Hospital.—Steps will be taken soon to establish a new form of governing body at the County Hospital. An executive cabinet is to be organized, consisting of a physician from each attending staff, a senior interne from each of the different schools of medicine, and the warden. Among the powers the Conference Committee intends to confer upon the warden is that of removing an interne for cause. Stricter rules for the assigning of patients in regular numerical order, so that partiality may not be shown to the attending staff, will also go into effect.

Chicago Medical Society.—At a meeting held October 23d, three papers on obstetrics were read. Colpeurynter in Obstetric Practice.—Dr. Jos. B. DeLee read this paper. After a brief historical résumé the following indications were noted: (1) Induction of premature labor; (2) to hasten delivery, as in eclampsia, premature detachment of placenta, heart disease, etc.; it evokes pains, softens the cervix, dilates same gently and firmly from above and makes delivery possible in a short time; (3) to prepare the parts for rapid delivery, *e. g.*, after symphysiotomy, version, etc.; (4) stenosis and rigidity of the cervix, vagina and perineum; (5) weak pains; (6) in "dry labors"; (7) in transverse presentation to keep the shoulder from wedging into the pelvis while waiting to be able to do version, and in contracted pelvis for the same purpose; (8) when the cord prolapses with the head; (9) during pregnancy to lift up a heavy uterus causing hyperemesis, and to replace a retroflexed, incarcerated uterus, filling the colpeurynter with water or mercury; (10) in placenta previa, perhaps the most valuable of all. The hemorrhage is stopped by the pressure of the placenta against the open sinuses, pains are evoked, the cervix is dilated gently and evenly, and time is given to rally the patient from collapse, to send for counsel and help. When the bag is passing through the cervix, all preparations are made for delivery, for version, etc. As soon as the bag has passed the external os, which is easily determinable, it is rapidly drawn through the vulva and further procedure instituted, which may take the form of forceps, version, another bag, or perhaps even expectancy. The writer is convinced that extended use of the colpeurynter in placenta previa will reduce maternal and fetal mortality to about almost nothing.

Anterior Vertex Presentations; Their Complications and Treatment.—Dr. Gustav Kolischer called anterior vertex presentations those presentations in which the fetal head passes through the pelvis slightly deflected, so that the anterior part of the cranium represents the lowest point of the skull. In cases of pendulous abdomen, where the fetus is the possessor of a struma, anterior vertex presentations are most likely to occur. Internal examination shows that the anterior and posterior fontanelles are on the same level, or that the large fontanelle is situated even lower than the small one. If the head has just passed the pelvic brim, the saggital suture is encountered toward the promontory, and just behind the symphysis we find an ear or the squamous suture. If the head has descended into the median plane of the pelvis, one finds the saggital suture in one of the oblique diameters, while both fontanelles are still located in the same plane. If normal rotation (occipito-anterior) has taken place in an anterior vertex presentation, the small fontanelle is found just beneath the symphysis, while the large fontanelle can be very easily reached in the perineal region. This is due to the deflection in which the fetal head is held. As to the frequency of anterior vertex presentation, comparative statistics from recent sources show that it occurs in about 8 per cent. of all head presentations. In all cases of forceps operations in anterior vertex presentation, he thinks the Walcher's posture can be used to great advantage. On account of the mento-occipital diameter, the perineum is always in great danger, and episiotomy has quite frequently been resorted to.

Occipito-Posterior Positions: Their Diagnosis and Treatment.—Dr. Charles E Paddock said that authorities differ regarding the relative frequency of the different positions of the vertex, but most agree that the occiput engages in right oblique to a large extent, about 30 per cent. of the cases being occipital right posterior, and about 4 per cent. of this 30 per cent. failing to rotate anteriorly and engaging in the hollow of the sacrum. According to

Naegle, who has probably given this subject more attention than anyone else, the head lies in the right oblique in 99 per cent. of all cases. Admitting the frequency of the occiput occupying a posterior position, and knowing the dangers which may result before the case has terminated, it has been the author's experience that the head does not engage as easily in this position as in the anterior one. In O. L. A., for instance, the head enters the pelvis with both parietal bones on the same level, that is, the biparietal diameter of the head passes through a pelvic diameter parallel with and about equal to one of the large oblique diameters. In O. R. P. position, however, this does not occur, and the head passes through a much smaller diameter. While it may not be possible to correct every case by posture, the number of successful ones is so large that every case diagnosed as O. D. P. before labor should be treated as follows: Caution the woman to lie upon her right side at night, and at all times when she is lying down. Each night and morning she should assume the knee-chest position for ten minutes. If the head be above the brim, in but very few cases will this treatment fail. In this position the anterior wall will be lower, the fetus rotating on its long axis, and the dorsum, being the heavier, naturally will seek the most dependent part of the uterus. The knee-chest position allows the head to settle away from the brim. In taking this position, the abdomen must be entirely free of tight clothing. Take another case, when the diagnosis has been made after labor has commenced, but the head still above the brim, the same treatment is often beneficial. The object of position in these cases is not only that anterior rotation may be favored, but a more perfect flexion of the head may be maintained. If flexion is not secured, we have the sinciputal end nearly on a level with the occiput; entering the pelvis in this way, labor is delayed, and when the head settles down, the sinciput coming in contact with the pelvic floor rotates forward and the occiput engages in the hollow of the sacrum, or we get a deep transverse in arrest which calls for artificial correction. While we speak of the occiput rotating posteriorly, we probably should say the sinciput rotates anteriorly Hart's law: Whatever position of the fetal body first strikes the resistance of the pelvic floor, whether it encounters this structure behind or in front of the median transverse line is directed forward, inward and downward under the arch of the symphysis. When the occiput is engaging slowly and the lateroprone position has failed, often much good will result by placing the patient in the Walcher position. There is still another class of cases where the head has engaged in the brim, the os dilated, but no progress being made. In this class the treatment to be first attempted is one which will nearly always succeed.

GENERAL.

Russian Medical Naturalists.—On January 2, 1902 (Dec. 20, 1901, ordinary calendar), the opening of the Seventeenth Congress of Russian Naturalists and Physicians will take place at St. Petersburg. The executive committee is formed of the president, M. le Prof. N. A. Menchoutkine, the vice-president, M. le Prof. A. A. Inostranzeff, the secretaries, MM. les Prof. I. I. Borgman and W. T. Chewiakoff. The Congress will be divided into the following sections: Mathematics and Mechanics, Astronomy and Geology, Physics, Geography, Chemistry, Geology and Mineralogy, Botany, Zoology, Anatomy and Physiology, Scientific Medicine and Hygiene. The Congress will be in session until January 12th. Those desiring to take part should communicate with the Executive Committee (St. Petersburg University).

CORRESPONDENCE.

BERLIN LETTER.

[From Our Special Correspondent.]

BERLIN, Oct. 14, 1901.

THE EIGHTIETH ANNIVERSARY OF RUDOLPH VIRCHOW.

"Homo sum, humani nihil a me alienum puto." These words of the Roman poet Terenz are eminently suitable to characterize the life and the principles of Rudolf Virchow. From the very earliest years of his scientific labors and public work, through all his endeavors until the present day, we can follow one distinct thread, the love of truth. Never bending himself to achieve success through byroads, he enlisted his untiring energy to fight for those principles which he had recognized as the right ones and he never rested on his shield, though he had done work a part of which would have made scores of men celebrated. His watchword was and is, "Excelsior."

His teacher, the great biologist Johannes Müller, enlisted him into the little army which fought against the mystic speculation of natural philosophy in medicine. Johannes Müller's school was strictly the school of positivism and nobody was more enthusiastic to follow the path of his teacher than Virchow.

The fruits of his earlier labors are our knowledge of embolism and thrombosis, leucemia and septic infection, but he crowned his work and covered himself with immortal glory, when in 1858 he uttered the little sentence *"Omnis cellula a cellula,"* and with these words laid the foundation of the principles of modern pathology, that branch upon which our entire modern medicine is resting. Men will come and go, empires and kingdoms may appear and disappear, but Rudolf Virchow's name will live forever and his lifework will be the admiration of the coming generation.

To this man equally as eminent as anthropologist, hygienist and statesman, as he is in medical pathology, have come the representatives of the civilized world to celebrate his eightieth birthday.

The celebration was divided into two parts. In the afternoon the inspection of the pathological

museum and an address by Virchow; in the evening the greeting and congratulations of Virchow's friends and admirers in the second chamber of the Prussian diet, a member of which he has been for decades.

At two o'clock the invited guests assembled in the aula of the pathological museum. The meeting was representative and international. England had sent Sir Joseph Lister and Sir Felix Semon; Italy, Professor Baccelli; France, Senator Prof. Cornil; Austria, Prof. Toldt; Russia, Botkin; Holland, Stockvis; Norway, A. Hansen. A tremendous applause greeted the master when he addressed the meeting. After a few well-chosen words of thanks, he spoke as follows: "While the scientific explorer enjoys such success in his work as he may achieve, it is only an impetus to new efforts and he is fully aware that what is to-day accepted as true and a fact, might be overthrown to-morrow." He then went into the history of medicine. "It appears impossible to go back to its beginning, so old it appears to be." A general description of the medical affairs in ancient Greece and Rome, the medieval medical school of Arabia, the Italian universities of Bologna and Padua during the fifteenth century and the entrance of Germany into the field of medical research followed. Two currents existed there; the one, which represented the Arabian doctrines, was led by Paracelsus, the other by Vesalius, the founder of the anatomy of the human body. It is he who might be called the father of pathology. Not death alone, however, but life itself and its changes demand the the attention of the pathologist and pathology belongs to the domain of biology. It would be erroneous to call pathology the teaching of disease. Pathology has no limit and even the field which deals with descendency belongs to its realm. Pathologists at the present time are at work to ascertain the border between formation and metaplasia. Pathological museums collect the proofs of facts found and demonstrated possibilities are of no material value. In olden times superstition and mystical speculation were the helpmates of the anatomist, where his deficient knowledge failed to explain. Especially was this the case in regard to monstrosities. These were considered the work of the devil. It was Meckel who with his embryonic study overthrew this belief. Another field which caused much trouble was the study of parasites living in the human and animal economy. We know now that only life can cause life." At the close Virchow remarked that the new museum should not only serve science alone, but should also be a source of popular instruction.

The next speaker, Surgeon-General Schaper, the director of the Charité Hospital, praised Virchow as the prince of science and a public benefactor. Hereafter demonstration of bacteria and parasites with the projection apparatus and an inspection of the different departments of the museum followed. This closed the afternoon celebration. The evening celebration in the great meeting hall of the Prussian Diet was probably the most imposing ovation which has ever been given to a man of science. The hall was profusely decorated with flowers, and governments and private societies, learned bodies from far and near, universities and cities had sent their representatives to give voice in word and deed to the admiration in which they hold the scientist, the thinker, the patriot and the statesman. At nine o'clock the trumpets announced the arrival of Rudolf Virchow, who was led to the seat of honor by Prof. Waldeyer, who is now on his way to the United States, where he will represent the Berlin University at the two hundredth anniversary of Yale University. He named as honorary presidents of the meeting the following: Minister of Public Instruction Studt; Minister of Agriculture v. Posadowsky; Surgeon-General of the Army v. Leutoldt; Professor Baccelli, Rome; Lord Lister, London; Professor Cornil, Paris; Professor Botkin, Petersburg; Professor Toldt, Vienna; Professor Stockvis, Amsterdam; Professor Hansen, Bergen; Professor v. Recklinghausen, Strassburg; Professor v. Bergmann, Berlin. He then with words of the highest praise, in which he called Virchow the benefactor of the whole world, handed him fifty thousand marks publicly collected for the purpose of the strengthening of the "Virchow Stiftung." Upon him followed the Minister of Public Instruction, who brought a letter from the Emperor and the Gold Medal for Science. Then came the deputies of the Medical Department of State and Ministry of War, the Academy of Science and other learned and scientific bodies to bring addresses and congratulations; and hereafter greeted with great applause the Italian Minister of Agriculture, Professor Baccelli, who delivered a Latin oration, the translation of a portion of which is as follows: "This day, on which in Berlin, the center of science, the highest honors are given to you, Rudolf Virchow, is the day of glory for the world's medical science and the day of happiness for the land of your birth, Germany.

"When your brow is crowned to-day with immortal laurels, this day is the day of justice and for us a day of the purest pleasure. For this reason I was sent to this assembly of illustrious men, who admire you and congratulate you, to tell you what Italy feels for you. First, I speak in the name of our beloved King, Victor Emanuel III., who from a strong and noble ancestry is by his own individuality drawn toward every great virtue, wherever it might appear. Furthermore the Ministers of Instruction and Medicine wished to congratulate you, but, more than anybody else, is Joseph Zanardelli, the successful liberal government leader, anxious to express his joy that you, the beaconlight of science, are unbent by your eighty years and in full manly vigor and strength.

"The science and methods of pathological anatomy, which were first taught in Italy by John Baptist Morgagni, you have, with never equaled wisdom, perfected in your German Fatherland and carried to such height that rightly you may

be called Teacher of Teachers. This the Italians desired to express in this picture and I have inscribed it with the following hexameter: *'Ut gnos corda fovent praesentes lumina spectent.'*

"Hail to you, Rudolf Virchow! May you reach Nestor's age, healthy and happy, an ornament of your country, protector of the human race, admired by all nations, but beloved of Italy, you the Immortal!"

Here Bacelli handed Virchow a most artistically-executed medal and a painting upon which Morgagni and Virchow are represented side by side.

It would take more space than you will allow me to mention all the deputations which followed with their congratulations and I may only be permitted to repeat what the French pathologist, Prof. Cornil, said:

"Dearest Master: Forever you have proclaimed in your work the principles of liberalism, based upon science, the foundation of all progress. You have inaugurated a new pathology, based upon the study of cellular lesions. You are the counselor of the cities in their desire for better hygiene. On account of all this, your friends from Paris bow down before you in loving veneration and wish you a long continuation of your admirable career."

It was long after midnight and long after the proposed time when the celebration ended, and everybody admired the splendid strength and activity of the great man. O. WATERMAN, M.D.

SOCIETY PROCEEDINGS.

NEW YORK STATE MEDICAL ASSOCIATION.

Eighteenth Annual Meeting, Held at the New York Academy of Medicine, October 21, 22, 23 and 24, 1901.

SECOND DAY—OCTOBER 22, 1901.

(Continued from Page 680.)

Malignant Disease of Nose.—Dr. Joseph D. S. Gibb of Philadelphia said that primary carcinoma of the nasal passages is rare. Primary sarcomata of nasal structures is not, however, so rare. As a rule these malignant tumors remain unidentified until it is too late to think seriously of radical operation. Their early diagnosis is an important desideratum. One of the very early symptoms is frequent epistaxis. In nearly every case this symptom was present a considerable time before other symptoms developed. In young persons in whom without special reasons there develops a tendency to bleeding from the nose, careful examination of the nasal chambers should be made, and if unusual conditions of bulging beneath the mucous membrane are found, suspicion should be aroused. When sarcoma of the nose runs into the ethmoid cells hideous deformity is apt to result. It is in these cases especially that the so-called "frog face" is seen. After the growth overruns the ethmoid cells it may find its way into the orbit and force the eyeballs outward. In these hopeless cases of nasal sarcoma the use of Coley's fluid would seem to be especially indicated. It has been employed in two cases, in one of which after two operations there was recurrence of the growth. In this case cure followed, but it was not attributed to the mixed toxins, but to the last operation. In the other case no effect was produced by Coley's fluid.

Distribution of Sarcomata.—These tumors occur by preference in the nasal chambers of males. Out of 96 reported cases 57 were in male subjects. Sarcomata used to be considered especially liable to occur in the young. Recent statistics show, however, that quite as many cases occur after forty as before forty. The absolute diagnosis can only be made with a microscipe after the removal of a whole or part of the tumor. Partial removal of the tumor is condemned by many surgeons, because it is liable to irritate the malignant elements of the tumor into increased activity. Microscopic diagnosis is not easy and not always assured. In certain cases where the pathology has pronounced the fatal word malignancy, the course of the case has subsequently proved the tumor to be of some other variety. At times, unfortunately, when the microscope has seemingly furnished evidence of non-malignancy, a fatal issue has occurred.

Cancer of Large Intestine.—Dr. James Tuttle of New York said that cancer of the intestine, as of all other parts of the body, used to be said to occur mainly in old people. In recent years, however, there have been reports of an increasing number of cases in the young. In New York the Board of Health reports show in recent years 17 cases of intestinal cancer in children under five years of age, 21 under ten years of age, and altogether nearly 200 in people under thirty-five years of age, which was formerly supposed to be almost the lower limit of age for cancer. Dr. Tuttle considers that it is the age of the tissues and not of the individual that lends itself to malignancy. In cases where precocious senility of any tissues develop there is liable to be malignant degeneration.

Types of Intestinal Cancer.—Epitheliomata of the intestine are not apt to produce constipation, especially not early in the case, and do not, as a rule, give rise to blood or pus in the stools. The main symptom is a nagging dyspepsia with intermittent tendencies to diarrhea and the development of cancer cachexia. Such cancers are apt to be insidious in their development and may produce extensive invasion before there is enough discomfort to lead to their discovery. Scirrhus cancer of the intestine is apt to produce stenosis of the lumen of the intestine and obstinate constipation. It is not long, under these circumstances, before there is ulceration and breaking down of tissue. Such cancers are apt to produce a febrile course. The temperature is not, however, due to the cancer itself, although this is sometimes said to be the case, but is due to the failure of movement on the part of the feces, with consequent absorption of fecal material and other toxic agents. Dr. Tuttle has verified this in the rectum, thereby keeping such cancers abso-

lutely clean. The existence of temperature has been prevented.

Operations for Intestinal Cancer.—Operations for cancer may involve the removal of the affected part or are done simply to alleviate symptoms. Artificial anus, for instance, is often made and often gives great relief to symptoms. The statistics of the operation show a large fatality. But this is because the operation is not one of choice, but of necessity, and is done as a rule only when the patient is in very bad condition.

Malignant Disease of the Penis.—Dr. Henry H. Morton of Brooklyn said that carcinomata of the penis originate usually in abrasions of an overlong foreskin. Circumcised Jews are said to be almost free from the disease. People who exercise care in washing the foreskin so as to leave no irritant beneath it are very seldom affected by cancer of the penis. The affection occurs especially in the lower walks of life, in which precautions of cleanliness are neglected. All erosions of the foreskin that are obstinate to treatment should be regarded with suspicion. If the edge is hard and there is hardness beneath the lesions, it is almost surely cancer. Gumma may be mistaken for cancer. Here the therapeutic test should be employed. Death usually takes place in two years if the tumor is not removed. Caustics only excite the tumors to greater activity and do harm. If the tumor is large the whole penis should be removed.

Ethyl Bromide and Ethyl Chloride.—Dr. S. Ormond Goldan of New York read a paper on these substances as surgical anesthetics and described and exhibited apparatus for their administration. He considered that they are more dangerous than ether or chloroform and are suitable, as a rule, only for minor operations. They do very well in taking the place of nitrous oxide at the beginning of anesthesia. Dr. Goldan considers that ethyl bromide is safer and more economical than ethyl chloride.

Ethyl Chloride as an Anesthetic.—Dr. James P. Tuttle of New York gave some details of his experience with 230 cases of anesthesia by means of ethyl chloride. He does not consider it in any sense of the word a dangerous anesthetic. It certainly is not, as Dr. Goldan said, more dangerous than ethyl bromide. Two surgeons in New York have communicated to him the details of two deaths that have taken place from the use of ethyl bromide. In other cases there have been serious annoying symptoms. There have been over 2,000 cases in which ethyl chloride has been employed. Not only have there been no deaths, but there have not even been any dangerous symptoms. If the anesthetic is used carefully it is an ideal method of producing narcosis for minor operations.

Apparatus for Anesthetics.—Dr. Tuttle does not approve of any of the new-fangled apparatus for the administration of anesthetics. The recently-introduced French apparatus have valves that are constantly rusting or buckling, or getting out of order in some way that makes them a nuisance just in the midst of the operation. He uses the old-fashioned inhaler and for short operations now uses in most cases ethyl chloride. This agent does not produce as much relaxation of the muscles as chloroform or ether, but is quite sufficient for such purposes as stretching sphincters or opening abscesses.

Inconveniences.—It is quite as frequent to have nausea after ethyl chloride as after nitrous oxide. Neither anesthetic must be employed with the idea that after vomiting will surely be prevented. The principal advantage of the use of ethyl chloride is the rapidity with which patients come under its influence. Fifteen or seventeen minutes are not required for its administration, but only five to seven minutes.

Advantages.—Besides the distinct benefit of a shorter preliminary stage ethyl chloride can be administered much more easily than nitrous oxide, because the apparatus required is not as cumbersome as that for nitrous oxide. It can be used in conjunction with ether and chloroform, and it is Dr. Tuttle's experience in this matter that has shown the profession how helpful it may be as a preliminary anesthetic.

Perforation of Gastric Ulcer.—Dr. U. W. Hotchkiss of New York reported a case of perforation of gastric ulcer successfully operated upon sixty hours after the perforation had taken place. The patient was a domestic, about thirty years of age, and for some six weeks before the development of acute symptoms complained of flatulence and general dyspeptic symptoms. A painful condition developed that affected most of the abdomen, but was relieved promptly by a cathartic. Afterward there were return attacks of rather severe pain in the left abdominal region. Two nights before her admission to the hospital she had gone to bed feeling perfectly well and was awakened from sound sleep by an intense pain localized mainly in the upper abdominal region. There had been a movement of the bowel on the day before the occurrence of the pain. But for some time before that constipation had been the rule. The painful condition became more diffuse and was accompanied by collapse. As her symptoms continued to increase despite ordinary remedies she was removed to the hospital. When admitted her abdomen was found to be generally tender, to be swollen and the muscles tense and rigid. Her temperature was 103° F., her pulse 132. Distinct symptoms of collapse were present. As constipation seemed to be a principal element in the case she was given a hot enema containing some ox-gall and glycerin. Improvement set in almost at once. The patient was so much better that the attending physicians were sure that mechanical delay of the feces was the principal element in the case. After about three hours, however, her painful symptoms came on again and she was given another enema. This was followed some time afterward by a natural movement that gave great relief. Relief was, however, only temporary and, as the pain returned and with it signs of collapse, the suspicion was aroused of the per-

foration of a gastric ulcer and an exploratory incision was made.

Operation.—The opening of the peritoneum was followed by the escape of gas and by some yellowish sero-purulent fluid. There was intense congestion of the serous covering of the stomach and here and there in the peritoneum flecks of fibrin occurred. The perforation was found in the anterior wall of the stomach and pockets of exudative peritoneal fluid were found scattered through the peritoneal cavity, behind the liver and spleen and along the intestine. Around the opening in the stomach the thickened edges showed that the ulcer had existed for a long time and as there was considerable necrotic tissue around it, it was thought better not to do a resection nor to attempt to bring the edges of the ulcer together, but to turn in the wall of the stomach and secure serous surfaces together by a double row of Lembert sutures. The general peritoneal cavity was then washed out with hot saline solution until the fluid came away perfectly clear. A liter of the solution was left in the abdomen when the abdominal incision was closed. Three days after the operation the patient developed a swelling of the parotid gland. This proved to be an attack of ordinary mumps. The children of the family in which she had been employed had had them before her entrance into the hospital. Otherwise there was no incident in her recovery. She was fed entirely by the rectum for a week and recovered after five weeks. Since then she has had no dyspeptic symptoms nor any discomfort of gastric origin.

Diagnostic Data.—The principal diagnostic data in these cases are the pain and the tendency to collapse after symptoms of an ulcer of the stomach have been present. When gastric ulcer is latent, as so often happens, then when suspicious symptoms occur, the only thing to do is to make an exploratory incision, and this is the best diagnostic method at our command. Ulcer of the stomach occurs more frequently in males, and especially in those over forty years of age. Ulcers are more frequent on the posterior wall of the stomach, but perforation occurs more frequently on the anterior wall. The statistics of ulcer of the stomach are not, however, quite complete as yet. The last collection of cases reported shows that more ulcers occur on the anterior wall.

Medical Abuse of Alcohol.—Dr. Frank Wellington Dennis of Unionville called attention to the fact that doctors not infrequently abuse alcohol as a remedial agent. Alcohol is really an excrementitious product formed while yeast grows in a sugar solution. It is a result of retrograde change and is capable of poisoning the yeast that it produces if in strong enough solution. It is undoubtedly harmful to healthy human beings and a drug that is destructive in health can not be reconstructive in disease. People who do not use alcohol have, at the age of twenty, ten years more expectation of life than those who use it freely. Insurance societies composed of total abstainers have to pay a much lower rate of assessment than others. The routine practice of medical men in this matter of advising the use of alcohol is a mistake that should be eradicated in this twentieth century.

Pelvic Inflammation.—Dr. Abraham Brothers of New York said that the old idea of pelvic inflammation seemed to be best conveyed by the description of an old gynecologist, who said that it was as if plaster of Paris had been allowed to set. Pelvic inflammation should not be considered as a separate entirety, but should always be traced to its cause. It is the treatment of the cause that is important. It comes either from the uterus through the tube, or by continuity of tissue, or through the lymphatics. There is always some single focus of origin to which all the inflammatory conditions can be traced. Usually this is an endometritis, purulent salpingitis or an appendicitis.

Frequency.—More than one-half of child-bearing women carefully examined at autopsy proved to have some pelvic inflammation. For this there are two main causes, puerperal and gonorrheal infection. Usually there is pain on the affected side, from which the inflammatory condition in the pelvis is derived. Sometimes, however, the pain is referred to the other side. Extensive changes may occur in the pelvis without the development of symptoms. When exudates persist for a long time they nearly always contain pus. Sometimes they remain quiescent for very long periods. In one case nineteen years of quiescence was reported.

Treatment.—The line of demarcation in treatment is between cases with and without pus. Where pus exists surgical treatment is absolutely necessary. For parametric conditions, not suspected to contain pus, ordinary local treatment is often of very great service. In the hands of careful conservative observers, non-purulent inflammatory conditions can be made to disappear by the use of douches, local applications and care of the bowels.

Special Skin Diseases.—Dr. Grover W. Wende of Buffalo exhibited a series of skin diseases with lantern illustrations. He brought out the change that has taken place in cases of impetigo contagiosa in the last few years. From simple blebs with tendencies to crust formation, the lesions have now become ring-shaped in character without much crusting. Other cases of interest were pompholyx, dermatitis herpetiformis pustolosa and X-ray dermatitis. In a case of X-ray affection all the skin of the hand of an operator, including even the nails, was completely destroyed. In another case an ulcer of the foot had lasted for two years and a half and the intense pain shows that there is also some involvement of the periosteum of the bone.

Third Day—October 23, 1901.

Symposium on Arteriosclerosis.

Etiology.—Dr. Charles E. Nammack of New York said that the causes of arteriosclerosis are, in addition to the acute infectious diseases, cer-

tain chronic intoxications such as are produced by chronic gout, lead or other metallic poisoning, alcohol or syphilis. The direct cause of the degenerations in the arterial system is due to the narrowing of the small vessels, which throws more work upon the heart and then this reacts upon the arteries. The initial period of the disease is always a contraction of the peripheral circulation. Without this, arterial degeneration does not develop. Over-feeding is a frequent cause of arteriosclerosis, yet geese may be fattened in order to provide livers for the gourmand and pigs may be fattened for market without the production of arterial degeneration.

Psychic Elements.—Though labor delighted in may physic pain, it is mainly overwork that leads to precocious degeneration of arteries; worrying over work is especially serious in this matter, for worry, not work, kills. Physicians are especially prone to suffer from it, though the public does not give them credit with worrying much over their patients. The death-rate of doctors in New York City is only surpassed by that of three classes of people—saloon-keepers, whose occupation is fatal; butchers, who are gluttons, and quarrymen and factory operatives, in whom the dangers of their occupation and poor living make the mortality-rate high. Doctors die particularly from three diseases connected with degeneration of the arteries—Bright's disease, apoplexy and heart-disease.

Symptomatology.—The history of a case of arteriosclerosis does not begin a few weeks before the patient comes to the doctor, but often from the very cradle. Extensive degeneration of arteries may exist without symptoms, though the inevitable breakdown is always preparing. Among the earliest symptoms that brings his condition to the attention of the patient are distress in the region of the heart and pain in the left arm. There often develops a disinclination to work, especially at the occupation which has perhaps been the delight of earlier years. Headaches are easily brought on as the result of indulgence in tobacco and coffee. When these symptoms develop the city doctor must sell his horse and get out into the air and take more exercise. He must deny himself his glass of wine at dinner and take a longer summer vacation, where he will not permit himself to be tempted into doing any of the work of the local practitioner. Outdoor air is better than iodides to widen the arteries, and this is the important prophylactic against the terminal stages of the disease. Herbert Spencer has defined life as a continuous adjustment of internal relations to external relations. This, the patient who finds himself in the early stages of arteriosclerosis must learn to do.

The Heart in Arteriosclerosis.—Dr. Delancey Rochester of Buffalo said that the degeneration of the arteries obstructs the outflow of blood from the heart because of the loss of elasticity. And yet the work thus thrown upon the heart soon causes failure of the nutrition of myocardium. Bouchard has shown that degeneration fragmentation and even atrophy of the cardiac muscle fibers take place. The valves also become affected, first the aortic and then the mitral. Then the development of arteriosclerosis in the coronary arteries leads to angina pectoris. Dr. Rochester detailed certain cases of arteriosclerosis in some of which attention was called particularly to the fact that the most common symptom was epigastric pain. This leads to the diagnosis of gastritis when the real condition was circulatory degeneration.

Treatment.—In Dr. Rochester's experience digitalis is always a dangerous drug in arteriosclerosis, and he finds cactus and valerian much more useful without the attendant risk. When digitalis has to be used he prefers Merck's digitalin. Morphine may have to be employed in cases where pain becomes the most prominent symptom. In one case, where the pain of angina pectoris continued for a long period, ether had to be employed. The main indication is to treat the patient's general condition. The diet must be carefully regulated, all sources of worry must be removed, gentle exercise must be insisted upon and where a heart compensation has failed the patient must be put to bed. In these cases the use of resisted movement, as employed by Schott at Nauheim, is of very great importance. This adds to the muscle tone and soon relieves the condition. Better than digitalis or any other of the supposed heart stimulants is nux vomica. If it is desired to produce the same effect by hypodermic medication strychnine should be employed.

Management of Arteriosclerosis.—Dr. Egbert LeFevre of New York said that the frequent diagnosis of heart failure in recent years shows that the medical profession has come to recognize the existence of a serious condition of lack of power in the circulatory system for which no single adequate pathological lesion can be found. The question of how to prevent its occurrence is one of the most important of present-day medicine. The conditions that develop with degeneration of arteries, the sclerosis of the kidneys and the enlargement of the heart, are evidently all to be classed together. The most important factor in their development is age. Not that advancing years inevitably bring on arteriosclerosis, or that the degeneration of arteries always correspond to the age. Men of seventy may possess better arteries than others of forty.

Etiology.—Undoubtedly the most important factor in the production of the disease is the hereditary predisposition to early degeneration of arteries. There are families in whom cardiovascular symptoms develop comparatively early in life. On the basis of predisposition there are certain elements that are especially active in causing arteriosclerosis. Chronic poisonings, such as are due to lead or alcohol, the intoxication of indigestion, or such diseases as gout and syphilis, are undoubtedly active in this matter. The mechanism of their action would seem to be the production of peripheral spasms in the blood-vessels

with consequent increase of the work for the heart and the larger vessels. Gradually this peripheral spasm lasts longer and forcible heart action with discomfort to the patient, especially after meals, or the systolic movement of the heart may be felt in the head. The first effect of toxemia is an hypertrophy of the muscular coat of the arteries. Toxemias are more apt to develop and to become exaggerated after middle life. A man of forty-five and over is more sedentary in his habits, the function of many organs is disturbed and the lack of exercise causes the failure of excretion of irritating substances. In these cases the underlying tendency to early degeneration of arteries is as important as the tendency in certain families to the development of tuberculosis.

Special Treatment.—It is especially important that persons suffering with beginning arteriosclerosis should not be without occupation. If the condition known as lithemia, or masked gout, develops and the patient is leading a very active life he may have to change his occupation. In a word, the keynote of success in the management of arteriosclerosis cases in their primary stage is specific control of the amount of exercise to be taken and absolute regulation of the diet. Overalimentation is the rule among older people of sedentary occupation and, together with a more luxurious diet, there comes the craving for richer food with consequent dyspepsia. For the depression incident to indigestion stimulants are taken and so a vicious circle of deleterious influences is formed. If the patients have distinct heart symptoms they are usually ready to listen to the advice of a physician. But at times the storm signal of cardiac disturbances does not come and patients are very hard to manage. If the patient has been accustomed to alcohol for a good while and a certain amount of stimulation seems necessary, then he should be limited to the use of whisky. While the amount of food taken must be limited, limitation must not go to such a degree as to cause impairment of nutrition. Loss of weight is a bad sign. Instead of limiting the diet too much there should be an increase of excretion by the emunctories. For this blue pill and salines should be taken symptomatically.

Drug-treatment.—Grey powder and quinine, of each three grains, should be taken at intervals of three weeks to a month. Between times the bowels should be kept open by means of Carlsbad salts or sodium phosphate. The drug-treatment of the early stage of the disease is not as important, however, as that of later stages, the main purpose being to slow the degenerative process.

Management of the Second Stage.—This stage of arteriosclerosis is the consequence of marked obstruction in the arterial system, with consequent cardiac hypertrophy. The patient is apt to feel the thumping of his enlarged heart. The first lesson is to keep up the heart compensation, for, if the circulation fails, a vicious circle is formed and the condition is rendered inveterate. All violent exercise should be avoided because of the call it makes upon the circulatory system. There should be a simple nutritious diet and no overloading of the stomach. Acute dyspeptic attacks are not infrequent and are best relieved by purgatives. For the feelings of discomfort that develop in the precordial region the nitrites gives transient relief and nitroglycerin for a little longer. After the nitrites there is always a reactionary increase of tension in the peripheral blood-vessels and so the use of these remedies should not be continued over long periods. Iodine and its salts are said to be the drug of arteries. It lowers blood-pressure without decreasing the force of the heart. Five to fifteen grains of an iodide three times a day renders blood-pressure lower and more constant and does not allow it to be easily disturbed by reflex irritation. Pharmacologists say that the iodides have no specific action on the arteries. They produce their effect, however, and probably act through the nervous system. The salt of iodine to be employed depends on the condition of the patient. Potassium iodide is most depressing, and should not be given whenever there is cardiac insufficiency already existent. Hydriodic acid is the least depressing and serves best whenever there is gastric irritability. It may be given in the syrup of hydriodic acid in doses of two to four drams three times a day. Compensatory hypertrophy is Nature's remedy for the arterial degeneration, but Nature is too prodigal in the matter and the consequent discomfort may be lessened by cold to the precordium. Sparteine sulphate in doses of one-eighth of a grain is a good heart tonic without being a stimulant in these cases.

Heart Stimulants.—All heart stimulants should be used carefully. If heart compensation is good, digitalis is contra-indicated. In failure of compensation this is of great value. It should be given for a week, or even for a month if needed. Small nightly doses three or four times a week serve to keep up the heart nutrition. Iron and cod-liver oil should be given freely and in general nutritive remedies employed as soon as any retrograding of the general condition is noted.

In the discussion, Dr. Quimby of New York said that the important element of these cases is to keep up the nutrition of the heart and blood-vessels. While inheritance plays a prominent rôle in these cases much of the tendency to degeneration is acquired. The fibrous change that is noted in heart and blood-vessels comes only when there is failure of nutrition. Fibrous tissue lives at a lower stage of nutritive vitality than muscular tissue and so replaces the muscular tissue when conditions are not favorable to the life of the muscle cells. Fibrosis in these cases is, then, rather a pathetic than a pathic change.

Heredity and Degeneration.—Dr. James J. Walsh of New York said that heredity, not by actual transference of diseased conditions from

one genertion to another, but by transmission of the tendency to degeneration, is undoubtedly the most important factor in these cases. Longevity is eminently a matter of family peculiarity. Only those live long whose ancestors have lived long. Early degeneration of arteries in one generation portends a like condition in the next. It is worry, and not work, that kills. Children of parents whose arteries have degenerated early in life should not be allowed to take up occupations that are especially liable to be accompanied by emotional disturbances. The family doctor should advise such people from being brokers or actors or even perhaps doctors, since, as Dr. Nammack has pointed out, the physician's life is liable to be so subject to worries.

Arteriosclerosis and Neurasthenia.—Neurasthenia is a word that in our day covers a host of various affections. Neurasthenia pure and simple, that is, functional deterioration of the nervous system as the sole basis of symptoms, is not nearly so frequent as has been thought. Very often it will be found that the vague pains complained of by neurasthenics, the tendency particularly to constriction of the thorax with more or less localization of the discomfort in the precordial region, are usually due to some disturbance of the circulatory system. In dispensary work, especially among patients who came originally from the center of Europe, there are many cases of apparent neurasthenia. Patients have been accustomed to an absolute outdoor life in Europe, and here in sweatshops and tenements live an absolute indoor life. This rightly forms a basis for true neurasthenia, yet very seldom will cases be found in which there is not some organic basis for the disease. Early degeneration of arteries in the hurried bustle of American life is the true American disease rather than neurasthenia.

Cardiac Pain and Gastralgia.—Dr. Charles G. Stockton of Buffalo said that it is not an unusual thing to find a case of acute dilatation of the heart associated with so much pain that it is considered to be true gastralgia and the patient is treated for gastritis. This may be the only symptom severe precordial pain. Very often the severe symptoms come on only after very extensive degeneration of the arteries has taken place. Dr. Stockton has seen a case in which rupture of the heart has taken place, with so few preliminary symptoms of cardiac disturbance as to make it a distinct surprise.

Corrosive Sublimate.—Dr. Frank W. Higgins of Cortlandt said that Professor Thompson used to advise corrosive chlorate of mercury in small doses for cases of arteriosclerosis and consequent circulatory symptoms. This is an old remedy, but Dr. Higgins has found it more satisfactory than many a drug of more recent suggestion. Of late, Dr. Higgins has tried bromide of gold and arsenic in these cases, but his results have not been very satisfactory and he would like to know how they had acted when administered by others.

Employment of Digitalis.—In closing the discussion, Dr. Nammack said that digitalis was not indicated in the first stages of the disease, but that in the third stage, when failure of compensation occurred and dilatation of the heart with ascitis and other accumulations of serous fluid in the tissue, it is the most important drug that we have. With regard to the mercurials, he prefers calomel to the corrosive chloride of mercury, and usually uses it in conjunction with digitalis and squill in the form of the well-known Niemeyer pills, this remedy with sulphate of magnesia gives great relief in these cases. The mercurial, of course, must be used intermittently and then the infusion of digitalis is employed.

Dr. Delancey Rochester said that in the terminal stage of arteriosclerosis, with collections of fluid in the body cavities and the areolar spaces, the patient needs rest and not digitalis. The patient should be put to bed and all the arteries should be relaxed. The emunctories should be thoroughly opened. Fluids should be removed by excretory methods or by cannula. Instead of digitalis, Dr. Rochester uses the fluid-extract of cactus, Merrill's preparation, though this is not employed continuously. Nux vomica is employed as a heart tonic and is much better than any heart stimulant. Dr. Rochester's experience with arsenic and gold salts has not been satisfactory.

Dr. LeFevre does not believe in digitalis in heroic doses. In small doses it undoubtedly does good. Nux vomica is of service in these cases, but it acts not directly as muscle tonic, but as a nerve tonic. By its use we cannot increase the nutrition of the heart muscle, as we can with digitalis. The careful use of digitalis undoubtedly prolongs life.

Blood-examinations in General Practice.—Dr. Frank W. Higgins of Cortlandt described some methods of blood-examination that may be used by the general practitioner and detailed the information that could be derived from them. For the specific gravity of the blood he considers Hammerschlag's method reliable and practical. A mixture of chloroform and benzine is used, the amount of the two ingredients being so regulated that a drop of blood will just float in the mixture. The specific gravity of the mixture will then be the specific gravity of the blood. Care must be taken that no air clings to the drop of blood and the determination must be made before any changes have been induced in the blood by the chloroform benzine. There should be no water on the top of the mixture or this will cause loss of hemoglobin and consequent disturbance of the specific gravity. There are rather wide variations in the specific gravity of the blood in health. The specific gravity of the blood corresponds very closely to its hemoglobin contents.

Hemoglobin Determination.—The methods for determining the amount of hemoglobin in the blood are the least accurate in scientific blood estimation. It depends on the recognition of fine

gradations of color and males do not possess a good color sense. Fleischl's is the best instrument for the purpose. The determination of the hemoglobin in the blood is of value in the differential diagnosis of pernicious anemia from cancer. In pernicious anemia the amount of hemoglobin present is more than would be expected from the number of red cells present. The only diagnostic method for the recognition of leucemia is by counting the white cells present in the blood. The number of white cells also decides the amount of leucocytosis, and leucocytosis has become an important diagnostic feature in recent years. Whenever acute suppuration takes place in the body, leucocytosis showing 12,000 to 50,000 white cells per cubic millimeter is to be found. In intestinal perforation in typhoid the occurrence of leucocytosis is almost pathognomonic, because typhoid fever itself is almost the only acute infection in which no leucocytosis takes place. Leucopenia, that is to say, a lessened number of white blood-cells than normal, occurs in intense septic infection and is sometimes of service in the diagnosis of cases where it is difficult to obtain a history. In blood-counting the leucocytosis that occurs after anesthetics is transient and so is not liable to produce confusion with septic conditions. In conditions of abscess or gangrene the leucocytes are always increased in number. In pneumonia marked rise in the number of leucocytes indicates a favorable prognosis. This is not a difficult procedure and is extremely important for the diagnosis of anemic conditions. In pernicious anemia the red cells are found distorted and poikolocytosis always means a grave anemia. The presence of megaloblasts, that is, of large red cells containing nuclei, is an index of a fatal type of anemia. For blood staining Erlich's tri-acid solution is the best. When this is carefully applied and the staining is good and clear, a lens with a one-fifth of an inch focus is quite high enough power for the study of the stained cell. The differential blood-count is not difficult and sometimes gives precious information in annoyingly obscure cases. Eosinophilia is a pathognomonic sign of trichinosis and justifies the cutting out of pieces of muscle for examination for the parasite.

Simple Blood-method.—Dr. Richard C. Cabot of Boston said in the discussion that he was a general practitioner himself and that any general practitioner might readily study the blood to advantage. For the determination of the hemoglobin in blood he considers that Talquist's apparatus is quite sufficient; it costs a dollar and a quarter and the examination takes about five seconds; it is accurate to at least within ten degrees. The determination of the specific gravity in the blood is not of sufficient clinical value to make it worth while. The presence of leucocytosis may mean pus and taken in conjunction with other symptoms it must not be considered of itself, however, absolutely to denote the presence of a purulent condition.

Tuberculous Glands of the Neck.—Dr. Syms of New York read a paper on the conservative surgery of tuberculous glands of the neck. Dr. Syms does not believe in the radical operation save in certain selected cases. It does not save scars, but replaces several small scars by one long, and usually much more noticeable, scar. The so-called radical operation also increases the danger of general infection and it decreases the resisting power of the individual at a time when there may be little resistive vitality. The radical operation has a place in surgery if glands are breaking down continuously and fresh glands are progressively infected and if the general health is being undermined by the pathological process that thus persists. The most important thing is the general treatment of the patient's conditions. They should be advised to be out-of-doors all the hours of sunshine, they should sleep with the windows wide open and be well covered, and should have a warm room in which to dress and undress. Their digestion and bowels should be carefully regulated and milk should be given between meals and on retiring. They should be given the syrup of the iodide of iron, and should be made to retire early and sleep long.

Local Treatment.—When glands become enlarged they should be covered with a ten-per-cent. ichthyol ointment at night and this should be washed off in the morning. If one or more glands remain obstinately enlarged these should be removed. If glands begin to break down an incision should be made into them before the capsule ruptures. A surgeon should be careful not to permit the development of periglandular infective processes. After incision has been made into the gland it should be kept open by gauze for some time until all of the broken-down material has been discharged.

President's Address.—Dr. John A. Wyeth of New York, the President of the Association, then delivered the Annual Address, the subject of which was "Comments on Some New Surgical Methods." With regard to medullary narcosis Dr. Wyeth is of the opinion that it has come to stay and will form a useful procedure for modern surgery. When patients have affections of the kidneys that contra-indicate the use of ether, the injection of a fifth of a grain of cocaine into the spinal cord will secure the necessary anesthesia. In obstetrics, also, this method has been found useful, though the use of chloroform has been so safe in midwifery that any other anesthetic method seems superfluous.

Cocaine can be sterilized by being placed in a test-tube and plunging the latter into boiling water. This does not destroy the anesthetic power of the cocaine. The needle is inserted between the fourth and fifth lumbar vertebræ and is pushed inward and upward. In especially sensitive patients local anesthesia by cocaine or eucaine may be employed for the cutaneous and immediately underlying tissues. About as many minims of the cerebro-spinal fluid should be allowed to escape as are to be injected of cocaine

solution; that is usually about ten drops. The injection should be made slowly and the insertion of the needle into the meninges should also be made slowly. In an old case of Pott's disease in which the lumbar vertebræ were soldered together, Dr. Wyeth has succeeded in securing spinal anesthesia by injection between the tenth and eleventh dorsal vertebræ.

Occlusion of Carotids for Neoplasms.—Dr. Wyeth has been very much interested in the method of treatment for inoperable malignant tumors of the larynx and pharynx by cutting off their blood-supply. This is done by tying the carotid on the affected side. Dr. Wyeth has experimented on animals with the hope of finding some substance which, when injected into the vessels, would bring about their occlusion. Alcohol did not produce closure of the vessels. Melted paraffin proved very satisfactory and was associated with no annoying complications, such as gangrene. Boiling hot water causes clotting where injected and closure of the vessels, but it is followed by gangrene.

Boiling Water as Surgical Aid.—As the result of his experiments Dr. Wyeth resolved to use boiling water for the obliteration of a very disfiguring nevus of the lip in a young woman. A previous attempt at its removal by the knife led to serious bleeding. Part of the vascular growth was injected with hot water with subsequent atrophy that was very promising. Three large syringefuls were then injected into various parts of the growth with the result that it all atrophied. Pressure was exerted all around the growth during the injection to prevent clots being carried into the general circulation. The tumors continued to atrophy for some time after the operation and the patient now considers herself cured. The disfigurement is entirely gone.

Perineal Prostatectomy.—Dr. Wyeth considers that the development of the operation of prostatectomy is due to American surgery. Perineal prostatectomy, wherever possible, remains the operation of choice. The death-rate of this operation has decreased very materially of late years, owing to the skill of surgeons and the better technic. The progress in this special department of surgery represents some of the best work done during the last ten years.

Ovariotomy for Mammary Cancer.—Beetson, an English surgeon, removed the ovaries in a case of inoperable malignant disease of the breast. The mammary tumor decreased in size after the ovariotomy and the relief proved permanent. This operation has now been done a number of times, and in some cases at least has proved life-saving or has prolonged life and ameliorated symptoms. Just what cases it is best suited for has not yet been determined. Inoperable mammary cancer is such a hopeless condition that a simple non-dangerous procedure like this must be tried for its possible curative effect in every case.

Iodophilia.—Dr. Richard C. Cabot of Boston described this phenomenon, the occurrence of brownish granules in the white blood-cells when the blood is mixed with iodine and viewed under the microscope. The technic of the production of the iodophilic reaction is extremely simple. A drop of a mixture containing one part of iodine, three parts of potassium iodide and 100 parts of water with sufficient gum Arabic to make the solution mucilaginous is placed on a microscopical slide. Over this a cover-glass with an ordinary blood-smear as prepared for microscopical purposes is placed. Within a few seconds the iodophilic reaction can be seen if it occurs. The occurrence of this reaction in the white blood-cells used to be considered indicative of glycogen. Pure glycogen, however, dissolves in a solution of this kind and so it is not a glycogen reaction, though we do not as yet know just what causes it. It is nearly like the reaction that occurs in tissues where amyloid degeneration is present. All that can be said is that it is an iodine reaction. These are rather wide, but are definite enough to give valuable information. In general it may be said that the iodophilic reaction occurs in anemia, suppuration gangrene, or toxemia. Possibly all the conditions mentioned might be included under the single word toxemia. In brief the reaction tells us whether a patient is sick or not. This is important because, while there may be severe subjective symptoms, there may be no serious pathological conditions present. Our more exact methods of diagnosis are mainly for this purpose. We know that if a febrile temperature or albuminuria is present our patient has a serious condition. For a time it was considered that iodophilia, like leucocytosis in acute cases, meant pus. In connection with other symptoms it may be useful in the diagnosis of the development of purulent conditions, but alone it has not such special significance.

Practical Value.—Dr. Cabot related some cases in which iodophilia was of practical value. In a case admitted to the Massachusetts General Hospital, there was some tenderness of the abdomen, some pain, marked prostration and a tendency to collapse in an extremely anxious patient. The symptoms were very indefinite and the diagnosis seemed to lie between abdominal obstruction, pancreatitis, or peritonitis. With a low leucocytosis the iodophilic reaction was marked. The suggested diagnosis was peritonitis and the operation proved its correctness. In difficult appendicitis cases, the reaction is always useful, its presence being significant of a serious condition. For the differential diagnosis of serous or purulent empyema, iodophilia is almost pathognomonic.

Leucocytosis and Iodophilia.—Two years ago Dr. Cabot thought that iodophilia and leucocytosis went together. Now he knows that one may be present without the other and that this peculiarity may be of diagnostic significance. In two cases of extra-uterine pregnancy, for instance, there was a leucocytosis of over 20,000. This with the pain and other symptoms would

almost surely suggest the presence of pus. Iodophilia, however, was negative and the condition found was non-purulent. In a recent case there was pain in the shin-bone and the X-rays showed a shadow on the plate. The iodophilia was negative, showing that there was no pus, and at operation an exostosis was found. Iodophilia is never present in rheumatism and in a recent supposed rheumatic case where the reaction was positive the autopsy showed a pyemic condition of the joint.

The Laboratory in Surgery.—Dr. Simon Flexner of Philadelphia said that if the true value of the laboratory is recognized, its financial support will be insured. In order to secure this, however, it must be well managed. The laboratory is no longer a merely theoretic, but a thoroughly practical institution. The study of the edge of a malignant growth, for instance, may show that there are malignant elements at this point and indicate a certain return of the tumor. In certain neoplasms the morphology of a tumor may show to the trained microscopist that it is secondary and not primary and the original malignant neoplasm may prove to be in the prostate, in the nose, or in some other organ. In not a few cases, staphylococci and in rare cases even streptococci have been found in the blood. The significance of the presence of these bacteria is not yet entirely made out, but we know now that they do not necessarily imply an unfavorable prognosis. Patients may recover if the original focus of infection is in a position where it can be readily evacuated. Presence of bacteria in the blood means nothing unless they grow there. Typhoid bacilli frequently occur in the blood, but only rarely grow in it. In cases of varix the microscopical examination of removed blood-vessels showed the filarial origin of the condition in a case examined by Opie and in a recent case of Flexner's own. Leucocytosis, of course, is important in showing the presence of pus, though it fails to occur in intense cases of purulent generalized infection. Eosinophilia has come to be a recognized condition in trichiniasis and a pathognomonic sign of the affection. We are evidently only on the threshold of the progressive usefulness of the laboratory in practical medicine and surgery.

The Laboratory and Recent Modifications of Surgery.—Dr. Joseph D. Bryant of New York detailed some of his experiences as house surgeon at Bellevue thirty years ago, in order to bring out the difference between the methods of then and now and the improvements consequent upon the extended use of the laboratory in surgery. At that time many cases in the hospital for surgical reasons developed erysipelas. Pyemia was frequent. Carbolic acid, opium and balsam of Peru were the drugs most commonly prescribed, but anything like a hint of the principles of antisepsis was unknown and asepsis was unthought of. In six months of the surgical service nine patients died from pyemia as the result of compound fracture and amputation. In Dr. Bryant's eighteen years' experience as a visiting surgeon there have not been an equal number. Antiseptics were used blindly and inefficiently. Dr. Bryant still has the notes of some cases and their treatment. In 1871 he personally applied Lister's lac dressing. This was the first time it was ever applied in America. Lac plaster was made of carbolic acid and shellac and was poured upon the wound with the idea of acting as a protective; any idea of true surgical cleanliness was not yet in surgical minds.

Surgical Hesitation.—The marked feature of the surgical service was the hesitation of surgeons to interfere in many cases that are now operated upon at once. Dr. Bryant remembers a case of rupture of the bladder into the peritoneum. The bladder was drained by a catheter, but nothing further was done and the patient died, as might have been expected. The expectant plan of treatment was the rule then, and the mortality of such accidents was 95 per cent. Now over 60 per cent. are rescued. A patient suffering from extraperitoneal rupture of the bladder was admitted to the hospital, but nothing was done to repair the viscus. Abscesses were opened when they formed. A constant state of suppuration proved exhausting to the patient, and at the end of six weeks death ensued. These wounds were treated absolutely expectantly, surgeons being very timorous about opening the peritoneal cavity. The patient was put under the influence of opium and an expectant attitude maintained. Dr. Bryant recalled a case in which bloody urine was a feature, but the only surgical interference attempted was drainage of the bladder by a catheter. Needless to say most of the cases perished. The mortality was over 90 per cent. Now over 30 per cent. recover under surgical treatment.

Intestinal Obstruction.—Dr. Bryant recalls a consultation of the visiting surgical staff over a case of peritonitis that had developed as the result of intestinal obstruction. There was a history in the case of no movement of the bowels for seven days. The abdomen had become tender and swollen and the distention had become extreme. Vomiting that finally became fecal in character was established shortly after admission to the hospital. It was not until the fourth day that a consultation was held. Nothing was done as the result of the consultation, and at the autopsy strangulation of the small intestine was found. Thirty to 40 per cent. of such cases are saved now.

The Pneumatic Cabinet in Heart Disease.—Dr. Quimby of New York read a paper on the use of the pneumatic cabinet in the treatment of diseases of the heart. He uses a differentiation of pneumatic pressure in order to relieve many of the symptoms that occur during the course of heart disease. The patients breathe in air at a normal pressure and breathe out air at lessened pressure. The result of this treatment is not only the relief of symptoms, but also a tonic effect is exerted upon the heart that makes the

heart muscle much more capable of performing its work and is almost curative in character. Dr. Quimby exhibited the sygmographic tracings of a series of patients who had been treated by the differential pneumatic pressure method. All of them showed not only that the patients were relieved for the time being from their irregular heart action, but also that at successive séances of the treatment there was progressive improvement. Patients came back in better condition each time and went away still more improved until, finally, the relief afforded amounted, in the patient's mind at least, to a cure. There was during the progress of the treatment a noticeable change in the character of the physical signs of the heart and an evident modification of the valvular lesions in the cases as the result of the mechanical help afforded by the differential pneumatic experience.

Gunshot Wounds of the Hip-joint.—Major Louis A. LaGarde of Washington, D. C., read a paper describing the effects produced upon the hip-joint by the entrance of projectiles of reduced caliber. The old army rifle of the Civil War projected a 40 to 50 caliber bullet that weighed twice as much as the modern bullet of a 26 to 30 caliber. The old bullet was made entirely of lead and was flattened and shattered against hard tissues, making a crushing wound. Injuries of large bones and of large joints were then very serious. Besides, the old bullets were of lower velocity and so made a much less clean-cut wound. The modern bullet revolves on its axis 2,400 times a second at its exit from the rifle, the old bullets revolved only 800 times per second. Besides the smaller size and weight of the modern bullet for carrying purposes they are encased in a steel capsule. If the end of this capsule is filed off, leaving the lead exposed, when the bullet impinges against a hard substance, an explosive effect is produced. Under ordinary circumstances, however, the modern bullet makes a clean small hole through a bone. Dr. LaGarde exhibited some specimens of tibiæ and femora, showing how little splintering effect had been produced by bullets fired from cartridges with limited charges. They make a clean-cut, punched-out wound. Dr. Stevenson of the British Army in South Africa says that he has seen a number of hip-joint bullet-wounds recover without complications and without a sign of pus. There is undoubtedly penetration of the joint tissue, and yet in many cases the X-rays show nothing and they proceed to get well. During his experience in South Africa Dr. Stevenson has seen only three amputations for wounds of the hip-joint and only one of these resulted in death. It is evident, then, that the modern small-caliber bullet, while not intended originally to reduce the amount of suffering or injury produced, but adopted because of its better carrying power, is about to make the surgery of war easier and the danger of bullet-wounds in bones much less than before.

Asthma Not a Nervous Disease.—Dr. G. N. Jack of Depew, N. Y., read a paper in which he argued that asthma was due not to a nervous condition in the lungs themselves, nor to any reflex nervous condition outside of the lungs, but to instability of the blood. This instability of the blood is mainly due to intestinal toxemia. Absorption of illy-digested material from the gastro-intestinal tract has its effect upon the delicate lung-tissue and this gives rise to the asthma.

Diathesis in Asthma.—Asthma occurs with special frequency in patients suffering from a lymphatic diathesis. There will often be found in these cases an asthmatic lymphocytosis. The sudden death that occurs in the lymphatic diathesis is often due to a drowning of the patient in his own secretions. The cyanosis and excessive secretion that sometimes occur spasmodically even in young persons may be relieved by Epsom salts, which clear the blood of excrementitious material and so relieve the tendency to pulmonary spasm.

Vasomotor Paresis as Cause of Asthma.—In the discussion of Dr. Jack's paper, Dr. George Cott of Buffalo said that the most satisfactory explanation of the cause of asthma is that it is due to a vasomotor paresis. The reflexes that arouse this palsy of pulmonary terminal filaments need not necessarily be situated in the lungs or even in the respiratory tract, but may even come from the intestinal mucous membrane. Improvement of digestion, then, will lessen the number of attacks of asthma or cure the disease. This does not prove, however, that a better condition of the blood relieves asthma, because the cause of the asthma is in the blood. Improvement in the patient's condition causes less irritability of nerves and so lessens asthmatic attacks.

FOURTH DAY—OCTOBER 24TH.

Differential Leucocyte-count.—Dr. William G. LeBoutillier of New York City read a paper on the differential leucocyte-count in fractures. The fact that the bone-marrow is a blood-making organ might lead to the thought that there would be some marked differences in the differential leucocyte-count after fractures. Dr. LeBoutillier has investigated the question and finds that there is no special alteration in the proportion of various kinds of leucocytes during convalescence from fracture. There was a distinct rise in temperature after even simple fracture that continued as long as ten days to two weeks after the fracture and amounted to several degrees. Only in two cases were there marked differences in the leucocyte proportions and these were alcoholic cases in which sepsis and death followed. Myelocytes were more frequent than normal, but this was of no special clinical value.

Malposition of the Gall-Bladder.—Dr. E. D. Ferguson of Troy described some anomalous positions of the gall-bladder that have especial interests now because of the frequency of opera-

tions in the biliary tract. While the gall-bladder is said to be situated always in definite opposition between the right and left lobes of the liver, the complicated developmental processes of this portion of the body might be expected to bring about the displacement of it not infrequently. While much has been said of the burying of the gall-bladder in the midst of adhesions, very little has been written about its possible anomalous position. The liver develops from two buds of embryonic tissue that gradually grow together, and between them the gall-tract is formed to find its proper place beneath the two lobes of the liver after their union. The simultaneous development of the omentum and peritoneum at this part makes the problem of ultimate position an intricate one with many possible disturbing factors.

Extraperitoneal Gall-bladder.—Dr. Ferguson described three cases in at least two of which the gall-bladder seemed to occupy a position behind the liver and outside of the peritoneal cavity. In one case the gall-bladder lay distinctly behind the liver and was extremely difficult to get at. In another case the gall-bladder formed a rather large sausage-like tumor behind the colon in the retroperitoneal space. It is evident that the study of anomalies of the gall-bladder will be of immense practical importance and that all observations in this matter should be carefully noted. As for the appendix, surgical interest will doubtless bring us the realization that there are a number of positions in which the gall-bladder may be as the result of embryological peculiarities, and that the surgeon must be prepared for anomalous symptoms.

Prostatic Obstruction.—Dr. J. W. S. Gouley of New York read a paper on the treatment of prostatic obstruction to urination by enucleation of the diseased part. He said that the operation for relief of prostatic obstruction should not be too long delayed. The operation should not be called prostatectomy, which is a wrong term, because the whole of the prostatic structure is never removed, but only the obstructing parts enucleated. Dr. Gouley exhibited a new form of prostatic retractor by which the enucleation of obstructing prostatic tissue would be facilitated.

Selection of Operation.—Dr. Parker Syms of New York said that we owe more to Dr. Gouley in the development of the proper surgical treatment of prostatic obstruction than to any one else in this country. The mortality was high at first, because operative interference was suggested only in the case of feeble old men, in whom it was proposed as a last resort. Dr. Syms considers that the perineal route is less dangerous than the suprapubic method, because it provides a simple straight wound and drainage by gravity. Dr. Syms presented a rubber bulb and tube retractor, by which the bladder can be pulled down and the prostate made more accessible. With this instrument he has done prostatic enucleation in twelve cases without a death.

Dr. Eugene Fuller of New York said that the operation in any given case must be selected according to the individual peculiarities of the case. At tmes undoubtedly the suprapubic route is the best. If the prostate is very large, weighing over half a pound, it is an extremely difficult matter to remove it through a perineal incision; if, as not infrequently happens in old prostatic cases, there is a large hard stone present, the suprapubic route is the operation of choice. In one such case seen recently Dr. Fuller has not hesitated to do a second suprapubic operation in order to remove a stone when necessary.

Vesical Emergencies.—The most important of these, according to Dr. Eugene Fuller, are due to retention of urine. There are two classes of cases—those in which catheterization is possible and those in which it is not. It must be borne in mind that distention causes spasm and tenesmus, and there must be no forcible effort at catheterization. A gum elastic stiffened catheter, olive-pointed, is the best for these cases. Where this will not pass a filiform bougie should be employed. As the opening in the stricture of the urethra may not be exactly in the center, this should be bent at various angles. If a filiform passes, the urine will usually escape alongside it and the patient may be put to bed and the bladder distention will relieve itself. If not a tunnel cavity can be employed. Where this fails suprapubic aspiration should be employed. After relief of bladder distention by aspiration a catheter may be passed.

Uterine Prolapse.—Dr. Frederick Holme Wiggin said that this is really a hernia and, in treating it, the hernial sac should be obliterated. For this a laparotomy should be done in the Trendelenburg position and purse-string sutures inserted in the uterus and the broad ligaments so as to give the uterus a new insertion near the base of the ligament. Patients should be kept in bed for four or five weeks, at the end of which time the vaginal redundancy will have disappeared and the muscle of the pelvic floor may then be brought together. Dr. Wiggin has used this method with satisfaction in patients from seventy to eighty years of age.

Typhoid Cholecystitis.—Dr. Charles G. Stockton of Buffalo detailed some cases in which an inflammation of the gall-bladder occurred as the result of infection with typhoid bacilli. In the first of the cases the symptoms referable to the gall-bladder developed 100 days after the beginning of the attack of typhoid fever. The typhoid had run an anomalous course with relapses; the first symptom of the attack were severe epigastric pains that compelled the patient to go to bed. These were localized in the right hypochondriac region. The abdomen was tender, especially in the upper part. The gall-bladder was not palpable. The temperature was 104° F. and the pulse 120. The patient had two severe chills the first day. Intense cyanosis developed, involving the lips and the nails. The stools were bile-stained and contained mucus.

During the course of the attack herpes zoster developed on the right arm. The Widal reaction, which had only been dubious before, then became positive. The attack was followed by the passage of a gall-stone.

Characteristic Case.—This patient was taken with pain in the right hypochondriac region that radiated upward toward the shoulder. When put to bed the pain subsided, but recurred when she went to work. There was tenderness over the liver. The Widal reaction was doubtful, the blood-counts showed a leucocytosis of 18,000. On the seventeenth day after the beginning of the attack jaundice developed. This came and went in a remarkable way. The irregular temperature course led to the conclusion that pus was present. The gall-bladder was opened by Dr. Roswell Park, but contained only viscid mucus. The gall-bladder was surrounded by recent adhesions. After the operation the temperature at once declined and cultures taken from the contents of the gall-bladder showed only the presence of typhoid bacilli. In a third case a husband had died with typhoid and four days after his death the wife was stricken with backache and headache and a temperature of 104° F. The Widal reaction showed a loss of motion in the bacilli, but very poor clumping. Nearly two months pased before the reaction became positive. On the twentieth day the patient developed a severe chill with some jaundice. An attack resembling gall-stone colic occurred and a gall-stone was passed. Leucocytosis was also present in this case. In these cases, except the first one, which developed very late, the average time of development was about the twentieth day; this is also the average time of development in a large series of cases.

Pain in Cholecystitis.—The presence of pain with infection of the gall-bladder does not necessarily mean the presence of calculus. Dr. Ferguson of Troy said that Kehr, the German authority on gall-stone surgery, believes that cholecystitis causes spasm and consequent pain without the presence of stone. Dr. Stockton in closing the discussion said that Naunyn, the great German medical authority on biliary conditions, considers that it is the inflammation set up by the stone rather than the stone itself that causes the pain. He also says that cholecystitis is the mother of gall-stones.

Rheumatism versus Consumption.—Dr. Thomas F. Reilly of New York read a paper in which he discussed the protection afforded by the gouty or rheumatic diathesis against pulmonary tuberculosis. Nearly a century ago Louis, the distinguished French medical authority, believed in the opposition of the two conditions. Rokitansky at the middle of the century seemed certain of the same opinion. There is a certain tendency to fibroid conditions associated with the gouty and rheumatic diathesis that is strongly opposed to the development of tuberculous processes. In over 100 cases of tuberculosis careful examination of the history showed that, notwithstanding the fact that most of the patients were of the poorer class, had been exposed to the elements and to the inclemencies of the weather and had abused alcohol, only two per cent. of them had ever suffered from rheumatic symptoms. Other observers have called attention to this condition. Of late injections of urea have been employed with claims of good results as in pulmonary phthisis. The principle would seem to be that an excess of the products which cause rheumatic symptoms would be preventive or curative of tuberculous disease. Dr. Reilly called attention to the fact also that skin diseases usually considered to be associated with the rheumatic diathesis do not occur in phthisis.

Resection of Cervical Sympathetic for Glaucoma.—Dr. Wilbur B. Marple of New York gave the present status of this operation for glaucoma. In from 10 to 25 per cent. of glaucomatous cases no improvement is brought about by iridectomy. These cases go on to blindness in the midst of pain and intense discomfort. In 1896 experiments on animals showed that the section of the cervical sympathetic caused a decrease of intra-ocular tension with a smaller pupil. It was not until three years later however, that this fact was applied to medical practice. There was fear that section of the cervical sympathetic would cause trophic lesions in the eye and the side of the head.

Present Statistics.—Last year at the International Congress for Ophthalmology 74 cases of sympathectomy for glaucoma were reported. To these Dr. Marple adds 13 cases. Unfortunately, many of the reports of success in the operation come too soon after its execution to give any idea of its ultimate success. The disease is essentially chronic and in some sympathetic resection is followed by improvement, yet the improvement is not permanent. Up to this time we are not sure in what cases sympathectomy is indicated, or in what cases permanent good results can be expected. When excavation of the papilla with atrophy of the optic nerve has taken place little improvement can be looked for. Meantime we must wait and sift cases.

Cervical Resection.—Dr. James J. Walsh of New York said that, in a recent communication from Professor Jonnesco, that surgeon stated that cases operated on by this method for glaucoma in 1897 had retained the improvement that came after the operation. In Professor Jonnesco's hands the operation has been useful not only for glaucoma, but also for exophthalmic goiter. In cases where the exophthalmos is very marked and there is danger of loss of the eye from failure of the lids to cover the protruded globe, cervical sympathectomy saves the sight, the exophthalmos grows less, the goiter decreases and the rapid heart action is diminished. in closing the discussion, Dr. Marple said that Professor Jonnesco's cases are reported entirely too meagerly to enable us to judge, either of the conditions existing before or of the improvement that took place or of its permanency.

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ORIGINAL ARTICLES.

SOME FURTHER REMARKS ON HOSPITAL AND DISPENSARY ABUSES AND MISMANAGEMENT, WITH AN ACCOUNT OF THE MEANS TO BE EMPLOYED TO MITIGATE OR ARREST THEM.[1]

BY THOMAS J. HILLIS, M.D.,

OF NEW YORK.

Is IT putting a premium on pauperism and an outrage on the honest man to permit a system that dumps into the ward of a hospital an assassin and a thief, and places between those malefactors a citizen who came to the hospital in good faith, and, as a guarantee of which, paid his board in advance?

A burglar made a daring attempt to rob a house, but only succeeded in killing the proprietor, wounding the latter's son and desperately injuring himself. The assassin and his victim are carried by the ambulance to the hospital, and, as likely as not, may be laid side by side in the ward. With the wounded men comes an officer of the law to keep guard lest the assassin escape.

The privacy of that ward is invaded by a thief (who is also a murderer) and a police officer. There are patients in that ward who pay their board, and others who don't, some of whom are very low, suffering from shock and other causes incident to disease. Nerves there are there racked with pain, and hearts which ache. Now, to increase this suffering of those afflicted people, right in the midst of them an assassin and a policeman are placed.

This brutal and excuseless outrage (which among a spirited people ought not to be tolerated for an hour) is being enacted many nights and days in some one of our city hospitals under the eye of the superintendent, and no doubt through the order of the Board of Trustees, who wish to be known as men of fair dealing and public-spirited citizens. Have those ward-patients any rights that the trustees should respect? It appears not. Let us take a case in point.

The daughter of the president of the Board of Trustees of one of those hospitals of which we speak is convalescing from the effects of a severe attack of typhoid fever in her comfortable private room. What would her father say to the superintendent if he permitted a group of students, under the leadership of their professor, to invade her room for the purpose of further diagnosing her case? He would ask for his resignation, and request that it should take effect immediately. Yet, this offense of the superintendent is only a minor one, easily condoned, compared with the flagrant outrage he caused to be committed in the ward of the hospital he controlled by the presence of a burglar and a policeman.

The woman, whose sister is a seamstress, and who works until her head reels, and her eyes are red from worry and weeping at her hard lot, is spunky; she has sand in her, and wishes it to be known that her sister is no pauper and does not belong to the brigade which pays no board to the hospital. Nevertheless these are her companions in the ward, but the Trustees, those humane and intelligent gentlemen who drive murderers and policemen into the wards, wish to suppress the fact that this clever little woman pays her sister's board. Why? Simply for the reason that it might hurt the feelings and jar on the nerves of the dead-heads and paupers who are permitted, through their courtesy, to occupy the ward with her.

It might be worth while remembering that most of those dead-heads, and some of the so-called paupers, have money in bank, but such a little thing as this has no concern for the Trustees or the management. The pauper got into the ward somehow, and, being there, is invited to share in common with those who pay their board all the blessings and privileges that the hospital can bestow.

Is it honest on the part of the Trustees to hide the fact that the seamstress's sister is paying her way at the hospital, and to have her sup from the same cup and eat from the same dish with a criminal or a pauper, who may be reclining on a cot on either side of her? It is a dishonest, immoral and a criminal act for which the writer of this article holds the hospital authorities directly responsible.

This very intelligent Board of Trustees is quite interested in the patients in the wards who pay no board, so much so, that the fact that they don't, is visited with swift punishment on him or her who reveals it. There is no doubt that the superintendent, speaking for the Trustees, will again put in the same threadbare old plea he has done before, that each patient in the ward gets a food suitable to his case; that the physician in charge is alone the judge of this food as to amount and quality; that the standard of excellence is maintained for the wards as a whole, regardless of who pays or who does not pay; that the hospital reserves to itself the right to shield the affairs of a burglar or a beggar from inquisitive and prying eyes, and that the deficit is made up from the surplus of the hospital funds and gratuities. This is not true even in part, for the quality of food supply and manner of cooking fluctuate in most hospitals from day to day, being always affected by the prosperity of the hospital; the condition of its finances it reflects with great regularity.

[1] Read at the meeting of the New York County Medical Society in the Academy of Medicine May 27, 1901.

Anything, therefore, the superintendent will say about personal rights and individual obligations, besides a defense of the excellence of his culinary arrangements and quality and distribution of his food supply had better not be said.

In looking over the field of hospital mismanagement, and making due allowance for everything, the conclusion is irresistible that the hospital trustee who places the man or woman who pays no board, at a table with the man or the woman who does, no matter how plausible the pretext for doing so, is a promoter of social disorder and an advocate of mercantile dishonor, and does really as much to corrupt and disorganize society as a drunkard, bank burglar or the veriest common swindler, though he may be regarded as a magnanimous host by the crowd of dead-heads he harbors in the wards, whom he makes companions of decent people who pay him a weekly board-bill. No doubt the paupers in the ward count the Trustees as chivalrous; if so, it is the kind of chivalry indulged in by Robin Hood and other knights of the road in days gone by, and the kind of chivalry for which men are shot in Southern Europe and on the Mexican border to-day—the chivalry that suppresses facts, that enhances one's honor and exalts them in the community; that commits cold-blooded murder, and places a premium on hypocrisy and falsehood.

The hospital trustee will soon vacate the hotel in which he is comfortably housed if he has to "rough it" at the servants' table, and in the hotel corridors gets into a daily mix-up with all manner of people. On what ground will he base his action for leaving the hotel? Simply on this: That he paid a higher board-bill than the crowd with which he was compelled to mingle and that his necessities and creature comforts were leveled to theirs. He considers this a sufficient reason for vacating his quarters at the hotel, and it is. He found fault because others who paid less, and some who perhaps paid nothing for accommodations, fared precisely as he did.

Now, the thing he frowned on and expressed his disapprobation of, because it concerned himself, he endorses and stamps with the seal of his authority, because it is the affair of some one else. It would please the superintendent if the housekeeper would have roast lamb for dinner to-morrow for his hospital family. This, however, is out of the question for two reasons—roast lamb is dear and only 80 out of his 300 patients pay their board and lodging. If all paid he could afford to give them roast lamb and a plate of custard or jelly as dessert.

Now, 80 who have paid their board in advance must subsist to-morrow on a very inferior quality of boiled beef—the kind the boarding mistress of the cheaper class beats into tenderness with the blunt end of a hatchet—because there are 220 dead-heads in the hospital wards paying no board, whose sensibilities might be hurt if the 80 got some value for their money. Those 220 paupers have got into the wards through the tricks and devices of which we have spoken, and this crowd of mendicants spoil the chance of a good meal for the unfortunate 80 who have reason to expect better treatment. Now mind, gentlemen, this is not a charity hospital; if it were it would make the hearts of those dead-heads bleed to think it would become known that they were subsisting on charity. Of course it is not charity, but a poor substitute for it, introduced by the discreet Board of Trustees to cater to the depraved and the vicious, that it might enhance their standing in a community which owes them nothing.

The play was very humdrum and commonplace, and it elicited the disapproval of the audience, whose dissatisfaction was so pronounced that the manager had to come before the footlights to explain when he said that he did the best he could for the amount of money he got out of the audience, which was a large one, as only one out of four paid for a seat. It was a houseful of complimentary tickets he said, and even worse, the best seats were not occupied by the few who paid, but by those who cheeked it by telling a plausible story to the ticket agent at the box window, who was a philanthropist, for he believed the crowd who said it was impecunious but loved high art, and was eager to witness the exhibition from front seats, and complied at once with its modest request. After hearing the explanation of the manager, what a howl of dissent went up from the people who paid for their seats, and how loud the demand to get it back, what a cry of fraud, shame and imposition from the crowd of disgusted amusement seekers. But they have no more right to complain than the pay patients placed in the same ward with murderers, burglars, paupers and policemen, but they do demand a separate apartment and their demand will be heeded and complied with in spite of the protest of the governor and the pleadings of the trustees, all of whom later will follow into retirement the philanthropic ticket agent, whose business acumen ruined the reputation of his theatre, besides placing the manager in an embarrassing position before his patrons and the public. The preceding examples in illustration are deadly parallels and place the hospital governors, to say the least, in an awkward position.

I am aware that various and artful devices are brought to bear on the superintendent of every hospital in the city by unscrupulous applicants for free lodgings, and I think that he does not exercise sufficient judgment, that is business judgment (the thing he is supposed to be so plentifully provided with), otherwise he would see through an applicant's shallow pretext of one being worthy to sup with a person who makes sacrifices to pay his hospital for bed and board; he would see the diamond purposely hidden in the folds of the man's negligé shirt, or in the bow-knot of the woman's tie. We think he should see through the thinly-veiled disguise that those people were impostors who are laughing in their

sleeve at his verdure and credulity, but he is color blind for the convenience of the Board of Trustees, whose agent he is.

While preparing this article the writer visited one of our great public hospitals to look around the wards, when by accident his eye fell on a cot, the occupant of which he recognized; he was a prosperous truckman whom, he afterwards understood, gained admittance on the plea that he was poor. It was a visiting-day. Around his cot were several female friends, wearing expensive articles of apparel, on the fingers of whose hands the writer counted several brilliants. Those people came to buoy him up and brighten the horizon of his future with a light and pleasant jocularity, thus opening the way to a more rapid convalescence. This man left the hospital which he entered on the pretense that he was poor, though he owned several trucks, which fact was easy to ascertain, with his health restored after a sojourn of five weeks. If the superintendent observed his movements later, as I did, and followed the fellow about, he would hear the chimes or merry bells and see a church wedding and an elaborate breakfast in which a chef and three waiters played conspicuous parts, for the fellow got married to one of the diamond-bedecked females who came to console and congratulate him as he was emerging from the clutches of disease. But it was not disease at all, for he was only suffering from simple fracture of the femur.

The declaring of intentions and entering of pedigree, done at the superintendent's desk at present, is a farce—a little diversion preparatory to entrance—for it puts a premium on falsehood and offers inducement to honest folk to turn cheats. The lying done at the dispensary desk and up-stairs, at the more pretentious one of the superintendent, is something appalling and awful to contemplate. Ananias and Sapphira, though they stand through the ages as the synonym for falsehood, would be the merest amateurs if placed in that group of applicants, who to-morrow, will be clamoring for free treatment in every dispensary in the city. If this awful mountain of blasphemy, piled up by those people, male and female, for the purpose of saving the dollar, was a thing of substance that could be measured by tons, its weight alone would sever the earth's planetary consort, drive her from the solar system to be a wanderer through interstellar space, forever enveloped in frigid and cheerless night.

Effects of Unsuitable Food.—There is no doubt whatever that convalescence is retarded, if not death actually invited, by the milk treatment so prevalent in our general hospitals. The visiting physician does not look into this matter, we think, as carefully as he should, for after making a diagnosis of a case, that is, if it is not already made by his obliging interne, he leaves important details to subordinates who are known not to be overparticular about treatment, and give whatever is handiest, as the ever-ready milk and seltzer. The idea has gone abroad, and is still prevalent, that milk is easily digested; that it is nutritious, convenient to handle, and easily kept from spoiling, all of which is only partly true. If the stomach is in order, and in most of the general diseases, it holds its own, it can digest other kinds of food much more easily than milk. The fact that milk is difficult of digestion, that it clogs and constipates the bowels and acts as an irritant, is not reason sufficient with the superintendent to outweigh a further fact—that it is cheap and handy, because he has to fill so many mouths with so little money; it being remembered that he has on his hands (unfortunate man) 220 people—dead-heads—who pay nothing for their board and lodging, notwithstanding are yet dissatisfied and clamoring for better food; he is himself in a plight to make ends meet and keep up a decent appearance. Economy to him must be the first consideration and a vital factor it is to the successful administration of his office.

If all the patients in the hospital wards paid their board then he could afford to introduce a higher class of treatment, which in some cases has a value almost specific, but meat juices are too difficult to prepare and to keep ready, in addition they cost more than milk, so the superintendent cannot afford them, and since he cannot his patients must suffer.

It is now clear that the man or the woman who is compelled to occupy the same ward with two or any other number of people who pay no board at all, but are there by the option and pleasure of the trustees and overseers, are not fairly treated. The time is now ripe for a change to be made, and it is that men and women who enter a hospital and pay a weekly board-bill to the superintendent should be assigned to wards especially designed for them. If the management sees fit, it can receive paupers, but with the understanding that it will be in separate wards.

There should be three wards in every public hospital, or, if the trustees please, four, one for the pay patients, one for the insane who are able to pay their way and at the trustee's pleasure, two wards for the paupers, sane and insane. The introduction of a system like this will solve the vexed question and leave the hospital management in a position to do absolute justice to all. The long-suffering people who have paid for comforts they do not get may thus be housed in a separate ward, where the superintendent can afford to give them beef extract and bouillon in place of milk and seltzer—the ever-ready remedy for filling the stomach no matter what the disease or condition; no more dosing the patient with milk until he loathes it and turns away in disgust.

Intelligent and judicious sponging of the body is a means of reducing temperature that should receive more consideration than it does now. This requires time and close attention and the frequent use of the thermometer, but since the patient pays his board to the hospital, and the attending physician is accommodating enough to render free service, and the labor of the interne

and nurse costs very little, if anything, much time can be devoted to cases and much better results will follow.

The writer is aware of the small mortality record of the hospitals in their treatment of typhoid cases, but his own experience and careful observation of that of others leads him to look with suspicion upon any records kept in those institutions. For the no-pay patient or pauper the speaker will ask a similar treatment, one precisely like that given in the pay ward, but if for any reason (as lack of funds) it falls short, it is very proper that the shortage should occur here. Indeed, the very fact that high-class treatment will be expected, will be a potent factor to a greater caution and circumspection about admission and send many, now in the general wards, where they properly belong—to the City Hospital.

It is eminently proper that suitable provision be made for the insane in every public hospital in the city (and, indeed, other cities, if feasible) by the setting apart of a ward for that purpose. No good reason has at any time been advanced to show why this has not been done before. Those that have been put forward are so flimsy and unsubstantial that the writer does not think it worth while to discuss or refute them here, but weighty ones can be introduced to show its necessity. We can understand why contagious diseases are barred from our hospitals on the ground of public policy and the greatest good to the greatest number; but the insane man is not barred on this ground, but only that of expediency—a principle that at bottom is always selfish and narrow. From this cause great injustice is done to the sane public, and greater still to the insane, as people of moderate means are known to keep mad relatives around when their own personal safety is in jeopardy. This they do because they are cruelly denied admission to the general hospital; are afraid of the charity insane hospital (of which they hear such terrible things every day) and have not the means to reach a private insane asylum. Nor is the so-called private insane asylum much of an improvement on the scandalous city one, as their methods are about the same.

The fact that there are no public hospitals where the insane, especially the great throng who are only temporarily insane, can be treated is a great hardship to the people of this city. The absence of insane wards in public hospitals has led to all manner of abuse, and private asylums are now as liberally scattered over this city and its suburbs, principally the latter, where they are known by the more inviting cognomen of sanitariums, as pool-rooms and gambling-houses, and though doing much more harm than those places, we have never yet heard of a raid being made on them or of their being the subject of police investigation or surveillance.

What Should the Charity Patient Pay?—The pauper himself candidly admits that he owes a debt of gratitude to the people, who, through its municipal agents, picks him off the street or carries him from his cheerless garret, where he is sick and penniless, to a place prepared for him in the ward of a hospital. This debt the pauper cannot pay in money, and there is no other way of which we are aware but one (not by his prayers, which are of doubtful efficacy), and that is by submitting his person from time to time, without inconvenience or injury to himself, to examination by a group of medical students under the leadership of an accredited professor attached either to the college or hospital, or both.

This will be all that the people will ask of the sick pauper—a slight token of esteem from him to his benefactors. The accommodating spirit of the pauper will not affect his standing in society, lessen the esteem of his friends, nor affect his chances of preferment after recovery when he again mingles with the world of bustle and activity.

The condescension of the pauper, while not injuring himself, will directly benefit others. For instance, the students who have to learn somewhere and begin on somebody. He must begin here, for now, since the rights of pay-patients have been recognized, and they know his limitations, they will repudiate him, though he comes endorsed by the hospital governor and labeled with the stamp of the visiting staff.

Those pay-patients have memories of wrongs that will not wash out. The strain of clumsy manipulation and coarse banter to which they had to submit when herding with burglars and paupers under a régime, that has now passed away. The pay-patient remembers with a shiver when he was a shining mark for the professor's class of yearlings, who used him for a punching bag during their primary clinical rehearsals; they paid their respects to him rather than to the pauper, because he looked cleaner and had less odor than that individual.

After each of these examinations he was wont to have a hectic flush; a sinking at the epigastrium with dizziness and nausea. It is only fair to state that the professor's class was not permitted by the hospital governors to know whether one was a pauper or a guest of the institution, they—the governors—being so sensitive about the pauper's nerves, while not caring a rap about the health and happiness of honest men and women who go to their hospital and pay their way under the belief that they are sheltered by an institution which believes in fair play and recognizes the rights of person and property.

There are those who will claim equal rights for the sick criminal, but they do not constitute the staple element—the bone and brawn of the community. They are those, with few exceptions, commonly designated as cranks, the exceptions being, as a rule, clergymen of the nondescript variety; social agitators who have personal aims to advance and nothing to give away but bad advice (of which they give freely), and milk-and-water philanthropists who have not the back bone of a shrimp. This triumvirate and their followers make an army of no mean pro-

portions and one which is always in rebellion against the means that civilized society provides for its safety. The arguments of these social pests, which consist of sentiment, sedition and the froth of religious enthusiasm, are so loosely constructed that they go to pieces at the first fire of well-directed common sense. The criminal has sacrificed his all—his liberty, his life—to outraged public order, and the State for self-protection must curb his predatory and murderous instincts, but while doing so is at liberty to make the best use of him it can; therefore, his general health permitting, he should be made the subject of clinical investigation and experiment, forming the nucleus around which will gather the instructor with his class of freshmen and the very young junior who is on the threshold of his professional career. In this group, the central figure of which is the sick criminal, primary lessons in the art of healing will be recited and abnormalities pointed out and traced to first causes, even if a sentry with a bayonet is required to maintain order; this, however, will not be necessary when hard and fast rules are formulated and rigidly applied. There will, no doubt, be a wail, long and loud, from the world of crankdom before referred to, because of our cruelty to the criminal, whom they call a degenerate, whose murderous instincts are no fault of his, but some distant progenitor who bequeathed them to him, in thus singling him out as the object of attack for young doctors who are in search of experience; but the wail will be feeble compared to the thunder of approbation from hard-headed common-sense people. We make no mistake when we send the young physician to practise on the criminal, for, if a mistake in treatment brings fatal results, it is well that they occurred to him rather than to the honest sick pauper whose interests we consider only second to the man and brother who is now in his own ward reaping benefits to him new, though to which he was always entitled.

The fitness of things now is as apparent as the outrages are patent, so much so, that even the hospital governor with his well-known obtuseness and mental obliquity can see a light. The writer of this article does not think that misfortune and disease level and equalize social conditions, nor does he believe that even death renders void obligations that bind society together in a prosperous and orderly homogeneity of interests; for this reason he contends that people who have money and are willing to pay for a bed in a public hospital should not be thrust into a ward in companionship with a pauper; that the pauper has no right to share in their treatment, and, further, that the criminal pauper has sacrificed all rights other than what justice and humanity deem should be his. On this basis we have organized the hospital, arranged its wards and put a finger-board in Roman letters that all can see and read: "This Ward for Pay-Patients," "That Ward for Paupers" and "A Ward Downstairs for Criminals." Now, the patients are where they rightly belong and there is a place for everybody and everybody in his place.

The Training of Internes.—The blunders of the hospital internes are admitted by all physicians and surgeons to whom the writer has spoken on the subject (and he has spoken to many). They say, apologetically, "Haven't they to learn on somebody, and begin somewhere, and pray, tell us where such opportunities can be found if not in the wards of a hospital? We admit they make grave mistakes, and they would make such mistakes more numerous and pronounced were they not so closely watched by us." It is hardly necessary for me to say that the latter part of the sentence is to be taken in a purely Pickwickian sense, since it is a notorious fact that they are not watched at all. Lecturers and college professors make no secret of this, for now they can afford to be candid.

A quarter of a century ago it was the privilege of the writer to sit at the feet of a noted anatomist (long since dead) in the class-room of the College of Physicians and Surgeons, and hear from his own lips of the blunders that he made in his early interne days, while in the service of the celebrated Kerney Rogers at the old New York Hospital, Broadway and Pearl street. In performing an operation he forgot, or disregarded the warning of his chief, about a cardinal anatomical point, and cut into the gut in place of the peritoneum which he mistook for something else. At the recital of his blunder (for such a blunder was fatal in those days) his stalwart frame shook and rocked from the effort to restrain his emotions, so visible to the whole class. Then, with an effort he pulled himself together and said: "Boys, human life is too sacred for a student to run up against it with a knife; I am more careful now. Your motto should be, 'Make haste slowly.' Doubtless you have heard the lines, 'Fools rush in where angels fear to tread.'"

Under the present atrocious system, the moment the young doctor is let loose from the restraints of school (because he was more expert at memorizing than some less pretentious but sober-minded scholar, who doubtless will acquit himself well before the final race for professional honors is run) he is conducted to the ward of a hospital to treat haphazard or happy-go-lucky the patients quartered there. His less pretentious brother would not dare to take such a desperate leap for fear of killing the person on whom he might fall, besides injuring himself; he prefers to take an humbler position in the service of his preceptor and be guided by his maturer judgment; he is creeping cautiously into practice while the new interne is rushing on with cyclonic velocity, and as disastrous in his results as it. If this interne, who is so rapidly projected against the hospital ward, had the hardihood to enter private practice at this express-train speed, he would find himself suddenly derailed and landed in jail, where he might have to plead to manslaughter and probably face a

term of imprisonment. He will not be asked now to look in the face of a jury, or be put in the dock for lives that were jeopardized or sacrificed to the injudicious use of his knife, or his nonchalant diagnosis of acute alcoholism. Why? Because of the influences behind him, not the most insignificant of which are the iron gates and towering walls of the hospital, silent but potent defenders.

Then there is the old emeritus surgeon with his veteran brother—the attending physician—who is active yet. These two men live in the past now, but their memory is acute of days when both were internes inside the gray old walls of the hospital, which in age honors them for their fidelity to it.

Those old men, now landmarks, are proud of the internes; they see themselves of other days reflected through them. The interne is their heir apparent—the anointed one—and rail at him who has the assurance to question the right or ability of their protégé to do as he pleases with his own, his heritage, his patrimony—the patients in the wards of the hospital.

If the interne makes a slip, such influences, with the powerful aid of the trustees, shield him from the vengeance of the law. The same youth, the hero of so much disaster (not to himself understand, but to others who had to trust to his judgment, though his blood relations and intimate friends, who know him well, would not), because he was endorsed by agencies so powerful and men so influential, will, when the occasion and time present, leave the hospital without ceremony and immediately proclaim himself a member of a hospital graduates' club in a medical annual partly got up for this purpose. In this book he will announce to an astonished profession that by the present stupid hospital system he was permitted to perhaps acquire some knowledge of physic and surgery at the expense of those whom he treated. This he does in an artless but matter-of-fact way, and, being interrogated about it, says he did it because it is the custom.

Custom, it can be seen, is often cruel and does not by any means make right, and it should be the duty of a liberal profession like ours, aided by the best intelligence of the people, to see to it that right prevails. Gentlemen of this society, I tell you here now, as I told you on this platform a year ago this night, that if the people of New York could be made alive to the knowledge of the vicious and disastrous work done in its hospitals by beginners in the persons of imprudent juniors, who are permitted by the grace of the Medical Board and enthusiastically endorsed by the trustees, to masquerade as physicians and surgeons, it would speedily arrest their pernicious activity by putting a quietus on them.

Now, gentlemen, it should be the mission and business of us all to put a tongue in every vital wound their assurance and effrontery have made until the cry goes up: "Away with those insolent pretenders and destruction assail the system which permitted their atrocities to go unchallenged." Gentlemen of this society, I am no orator; if I were I would proclaim from the hustings and go into the market-place and the thoroughfare to awake the people to tell them of the wrongs committed in their name; nor am I a priest, gentlemen; nevertheless, I have heard voluntary confessions from hospital internes and graduates where the ghosts of their victims pursued them, making daily life intolerable from the lash and sting of remorseful conscience and night hideous by visions and ghastly dreams; where they went into other professions and perished by the wayside, dying of blight and dry-rot before the road to success came into view; how in their hour of travail they saw a light and heard a noise—fire from Heaven—it withered their souls; in it they recognized a voice: it was the anathema of one whom their juvenile efforts had consigned to the tomb, and who went in his early life unnoticed and unwept to a pauper's grave.

Preparation for Hospital Service.—The hospitals of this city can be classified generally under three heads, charity, public and private. The private hospital has reached a high degree of efficiency, for the reason that only two parties are concerned in its management—the owner, who is generally a surgeon, and the patient, who has something to say about what may contribute to her comfort. The private hospital has taken advantage of the mistakes in management and blunders in treatment in charity and general hospitals, and is conducted on lines more in consonance with the spirit of the times and demands of individual cases.

The charity hospitals are owned and under the exclusive control of the City and for the sole benefit of its sick poor; their services are as poor as are the people for whom they are intended, although the city is at great expense to maintain them and their various branches. There is probably no department of the city government where so much mismanagement and general inefficiency exist as in this department, but since a fierce light is now directed on it, and as it is otherwise the subject of investigation, the writer will refrain from any further comment at present.

The intemperate, the lazy and the shiftless poor are those, as a rule, found in the wards of a charity hospital. Some careless writers class this motley crowd of thriftless ne'er-do-well people as belonging to the working class, but they do not, and this is why they are so poor. The great stalwart army composing the working classes will not go to a charity hospital if they can help it, for before doing so they will exhaust every artifice and subterfuge known to them.

The public hospital, it appears, has a threefold function—a sort of trinity; it constitutes in itself three hospitals—charity, public and private—and in a sense it holds that all three are equal, as seen with the light of its eyes, and for this reason, all parties receive precisely the same

measure of professional treatment and social consideration, but this, however, is only in theory, for in practice it does not work and cannot while human nature remains what it is now. The failure of the general hospital to accomplish all that it should lies in this fact: It opens its doors to a poor man if he is endorsed at the office by a friend powerful enough to impress it; it takes all emergency cases and this it probably does to fill the requirements of its charter and make itself eligible for benefits by endowment or charity contributions. As things stand now, the private hospital is a success. The charity hospital could be made a success too, for the cause of its failure is lack of discipline and a general disposition on the part of some people to shirk duties they are poorly paid for performing. So much cannot, however, be said for the general hospital, because its basic principles and governing motive are vicious and ill-advised; matters of fact and propositions easy of demonstration; it brushes aside and straddles questions that admit of only one construction.

The charity hospital receives patients because they have no money and the private hospital rejects them on this plea—the one is taken because he has money, the other, because he has not. All this is very simple and contains no element of uncertainty. But the public hospital may take a patient and it may not; it depends on how full the wards are and the amount of influence the patient can command. The superintendent will tell you money is not a factor in admission: if the patient can afford it, well and good, if not, the hospital will stand the expense of maintaining him until death or convalescence ensues, always reserving to itself the right to transfer him to the charity hospital if conditions, in its opinion, warrant such a change.

In these two facts lie most of all that is vicious and inhuman in the management of general hospitals. It is not a fact that the hospital bears the expense of the man the superintendent took in yesterday; the expense of maintaining him is deducted from the week's board another patient paid, and who is his neighbor in the ward where both lie side by side. This is where the crying wrong of hospital management reaches a climax, and where the chicanery, if not stupidity, of the trustees becomes apparent, and this is why the writer of this article demands that the pay-patient be kept separate from paupers, and a proper classification be made of all patients received into the public hospitals. No more playing blind-man's-buff and trifling with the interests of an honest man, that a lazy man or a malefactor may be a beneficiary. The other crowning outrage and a monument to the atrocity or asininity of the hospital governor is the carting of a wretch in the throes of death to a charity hospital on some plea as flimsy as it is inexcusable. The governor took this man in as he thought in good faith, but he took him in only to cast him out at his pleasure, which act is the most arbitrary exercise of power we ever heard of, besides its gross inhumanity—an act for which the governor should be execrated and his name made a thing to mock at.

Under the present system, a young man with the ink not yet dry on his diploma can enter a public or a charity hospital and assume at a moment's notice a position of great responsibility, for at any time, day or night, the life of a senator, bishop, judge or truck-driver may rest in the hollow of his hand, as either one of the said parties or of us, gentlemen, may meet with an accident in the crowded thoroughfares, and without ceremony be hustled into an ambulance and helter-skelter, with break-neck speed, be pitched into a ward perhaps between a criminal and a pauper, or two criminals.

With the introduction of the new hospital system, the need of which has been pointed out, this cannot occur, for patients on entering will be assigned to their respective wards; appearances and the circumstances surrounding the injury will throw a light in consigning even an unknown man to a place appropriate for him. A conspicuous feature in the hospital reorganization is that the new interne will begin his work, not as an amateur, but one who has had quite some professional experience in the practice of his profession, for he has already served eighteen months in the charity hospital, rising gradually to the top from its graded course, and he is here now in the public hospital as the result of a successful competitive examination. He could not now get into the public hospital on any pretext whatever; he may have been clever in the classroom at recital and have influential family connections, but it won't avail if the fact is not established that he has been a graduate of medicine eighteen months, during which time he served in a city charity hospital, first in the criminal pauper ward, the pauper and lastly the pauper insane ward.

It is vital that the three divisions into which we have divided the public charity hospital, each be maintained perfect in itself and under the control of a physician and surgeon appointed by someone, not a politician, who then may be a judge of their fitness. The examination to be held for the fitness of applicants of eighteen months' experience in practice, and which is now admitted to be a good deal of a fake, exclusively gotten up in the interest of the college and for the ultimate benefit of its special students, should not be limited to graduates from any hospital, but must be open to bright lads practising under the observing eyes of their preceptors, who will now be preceptors in fact as well as in name.

There is no reason that the writer is aware of, why a young doctor who graduated honorably from a recognized medical school, and who has practised under an instructor eighteen months, cannot be a competitor before a medical board, half of which should consist of members of the medical profession outside of hospital and college circles.

The college and the hospital numerically com-

bined will hardly make fifty per cent. of the great army of general and special practitioners, yet they control all the patronage of the city hospitals and want more. Much friction has occurred from time to time among the profession from the fact that the college faculties wish to suggest or dictate who will or who will not be appointed to fill a vacant place on the staff of a hospital board of surgeons or physicians, particularly a charity one.

The Hospital Not Financially Affected by the New Order of Things.—The public hospital will not be materially affected financially nor will the number of its patients be reduced by the reorganization, as scores who are now dead-heads, resting comfortably in the wards, will pay willingly rather than be assigned to a charity ward—a thing and name hateful to them. The interne will now make his début in the ward of the new hospital as a more or less accomplished physician and as one who has seen service before, having passed through a graded course of careful instruction at the public charity hospital, or as one who has occupied his time since his graduation, working hard as an assistant to his preceptor or some other active practitioner, and he will have to work very hard in order to be able to compete for honors in the public hospital with the graduates from charity.

On entering the hospital the young doctor will again begin at the bottom, as he did eighteen months previous in charity, or as he did in the teeming tenement district under the tutelage of his preceptor, not at the top (as was the custom in old service days), and work his way up through the grades, which will be the same as in the primary school of instruction, with the exception that there shall be no criminal ward, only as far as emergency will supply, until transfer can be made convenient and easy. This plan will always leave a few criminals in the ward of a public hospital, but if only one remains, on him the interne must begin his professional labors, and those labors will extend from the criminal ward, through charity, up to the pay ward, which will be divided for the convenience of the insane into two parts, the senior one of which will be theirs.

The insane ward will be the goal of the hospital graduate's ambition, when, after six months' service in it he can, with good grace, make application to be mustered out of hospital service. To him, then, can be awarded some of the honors of a military hero, who is desirous of mingling with and bearing part of the civic burden of the people. The value of his three years' hospital service will now soon become apparent to himself, through an increasing and remunerative practice, to say nothing of the benefits conferred on the ward patients of all grades, from the wider knowledge and superior skill that he exercised as he gradually passed through successive wards, and the incalculable gain to the hospital in prestige for having prudent and efficient men to look after its affairs in the absence of the visiting staff, who will now feel assured that the interests of all are protected and advanced.

Pay for Physicians in Charity Service.—The professors and teachers in charity hospitals should be paid like those who do efficient and honest work in other channels of business industry. Why the city at present permits physicians and surgeons to toil in its charity hospitals unpaid is surprising and cannot be accounted for by the writer. There is no rule of law or equity to justify the city for its action in this matter. It cannot be claimed that a surgeon is bound to be more charitable than the clergyman who receives his yearly salary for ministering to his flock, or the lawyer who refuses to identify himself with a case without a retainer as a preliminary and inaugural step. It is no reflection on those gentlemen's integrity and sincerity of purpose (nor is it resented by the people in any way) that they look for pay for services rendered or to be rendered.

If a merchant, because he is rich, reduces the price of his goods to less than they cost him, he will benefit one man but ruin another. His neighbor who is not so rich will suffer from lack of patronage, while the merchant himself will soon become a pauper. The baker who sells bread for three cents a loaf will be patronized, while the other baker across the street who sells at the regular price, five cents a loaf, will be ruined; so will the men who furnish the latter with supplies. The generosity of the former is disastrous to the business interests of the latter, besides it ultimately destroys himself.

The physician who works for nothing for the city hospital or, for that matter, for any hospital, cannot by his generosity do any permanent good. True, he may render aid in a few isolated cases, but he is not doing the greatest good to the greatest number. The laws of business are definite and determined and fixed as any chemical law, and if violated, will bring punishment as certain as will the laws of nature, if their operations are tampered with or hedged about in any way. It is as much the duty of the municipality to care for its sick poor, as it is for it to properly police the city or build schools to instruct its children; but it does not expect the men who protect the city, nor the architects who design the school houses, much less the men who build them, to work for nothing. If those mechanics and artisans by a sudden impulse of generosity, like the baker, agree to render service to the city gratis for a year, who can be found to assert that the work will be as well done as if they receive a monthly check for labor performed? Not since Noah left the ark, and it is some time ago, was such a piece of cool impudence hurled at an astonished medical profession (and one which for cheek and effrontery will always stand alone) as the inquiry made recently into the methods of the Medical Board of Charity, who work for nothing, by a city official who draws a large salary. That official was aware

that this Board was performing professional services which were laborious and at the expense of its health and its pocket, to do a work of charity for a rich corporation, which is the city. To criticize its work is like looking a gift horse in the mouth, or for a tramp, to whom pity offers shelter for the night, to demand a spring bed, long-hair mattress and embroidered quilt, and beefsteak with mushrooms and green peas for supper, as a condition of acceptance.

The writer of this paper will say that the first step looking toward any permanent reform in hospital abuses will be taken when every attending physician and surgeon in every public hospital in the city is paid a yearly salary for services rendered. Only when this is done will any notice be taken or weight attached to the deliberations of a charity commissioner, no matter how worthy the motive that prompted his inquiry. No doubt it will be said in extenuation that physicians and surgeons proffer their services to the city, that they are knocking at the door of the charity commissioner, imploring him to permit them to aid him in the philanthropic work for which he is paid. Admitting this to be the case, which, to say the least, is an unfortunate condition, it is morally wrong for the city to accept the services so generously proffered by those professional gentlemen who are importuning the charity commissioner to permit them to work for nothing.

Not very long ago the writer was a witness at court, a civil court where the judge, a politician, with great impressiveness made the announcement in the middle of court proceedings that he was obliged to adjourn his court for the day in order to argue a case for a client in another tribunal. This was done in a crowded court-room to the consternation of litigants and to the detriment of business, for the civil functionary gave notice that he would not again open court until the following Thursday, though then only Tuesday at noon. Whoever heard of a physician or surgeon in or out of the city's service, or any other service, make such an announcement, or act in a manner so detrimental to the interests of the people? No one ever heard of a physician or surgeon, though working without pay for the city, do such an arbitrary act; indeed if he did, the charity commissioner would demand the reason why, and no reason that he could give would avert his summary dismissal from the service of the city. Yet, nobody asks the politician judge who received $6,000 a year to explain why he arrested the legal wheels of his court and put so many people to a serious inconvenience.

After knowing all this, and he must admit its truth, the Commissioner of Charity, with some indignation and great hauteur asks the Medical Board to explain, not of their own affairs, but of those of others over whose action they have no control. This mode of reasoning is fatal to the Commissioner, since it makes it apparent that it is he who should explain to the Board, and not the Board to him, since no other authority than his would be recognized by the delinquent and offending parties.

The City of New York pays surgeons and physicians for professional services with such reasoning as the preceding, though those services have as high a value as those rendered in any civil department, if not more, certainly as much as the District Attorney or Supreme Court Judge or the Register of the Borough of Kings, who, being an honest man, after deducting what he thought was a requisite salary from his yearly perquisites, amounting to $60,000, handed back to charity $50,000, a sum which his conscience would not permit him to appropriate to himself, being aware that physicians and surgeons are working for nothing, though rendering services as onerous and responsible as his own.

There might be some show of reason if some charitable organization asked free service from a physician, but none whatever from the city; it is not deserving of the slightest consideration from the medical profession, since it is conceded to be now, itself, a gigantic corporation, as soulless as the most exacting trust, demanding its pound of flesh and getting it every time. At present it has the power to levy taxes at its own valuation on every foot of ground within the city limits, but for appearance sake, at least, it reduces the tax a half or a quarter per cent., though in order to do this it very shrewdly raises valuations. Once the stamp of its approval is on a tax list it is as unalterable as fate. If a luckless citizen (even though he be a physician working for nothing for the city in one of its hospitals) fails to pay his taxes at the prescribed time, the interest is added to the principal after the manner of the most heartless pawnbroker, and this interest and principal must be paid, or compound interest with forfeiture of property be the result in the case.

Now, this is the moral standing of the corporation which permits physicians to work for nothing for it. Is it not the irony of fate, and does it not serve just right him who, while working for it for nothing, neglects his own business until his shanty is seized by the sheriff for nonpayment of taxes? The upshot of the whole matter is that one thing must be done and that thing is this—the City of Greater New York must be compelled by law to pay its employees for services rendered, whether those services be performed in the public park by a laborer, in the Supreme Court by a Judge or in the City Hospital by a physician. To hasten the time, the medical profession, shoulder to shoulder as one man, should make it its business, and put it on its calendar as the order of the day, to be presented at every monthly meeting, to ascertain the reason why members of its body—important ones—are expected, much less permitted, to render service for nothing while no such service is expected or would be accepted if proffered by either the District Attorney, a park laborer or a Supreme Court Judge.

If a physician or surgeon be disposed to work for nothing for a private or public hospital that is his business (but he will never be asked to work for nothing for the former) and not a wise one in the long run; but when a physician or surgeon is asked or permitted to accept a place on the visiting staff of the city hospital, it should be with the understanding that he will receive pay for his services. Every other employee does, why not he?

51 Charlton Street.

THE RELATION OF SUNSHINE TO THE PREVALENCE OF INFLUENZA.[1]

BY HOWARD S. ANDERS, A.M., M.D.,
OF PHILADELPHIA;
LECTURER AND CLINICAL INSTRUCTOR IN PHYSICAL DIAGNOSIS MEDICO-CHIRURGICAL COLLEGE; ATTENDING PHYSICIAN TO THE SAMARITAN HOSPITAL, PHILADELPHIA.

THINKING that there might be more elements and influences in the air and soil than were ever detected and demonstrated in connection with our etiology of influenza, I began, two years ago, a special and methodical study of the meteorological conditions just antecedent to, as well as associated with epidemics of this disease since 1895. The outcome was a preliminary paper (The Relation of Local Meteorologic Conditions to the Influenza Epidemic in Philadelphia, Winter of 1898-99) read before this Association and based upon a comparative analysis of the data for four years, for the months of October, November, December and January, the grip epidemic of 1898-99 having been at its height during the two months last named.

Introductory to the present observations it may be quite relevant to repeat here the tentative conclusions then reached, which were as follows: (1) Abnormal increase in the barometric pressure, and in the absolute range between the highest and lowest pressures for the epidemic months; (2) sudden, frequent and extreme alternations of abnormally high and low temperature ranges; (3) comparatively lower relative humidity during the prevalence of sharply epidemic influenza; (4) diminished precipitation, but short periods of unusual fogginess alternating with periods of dryness; (5) marked prevalence of strong northerly winds frequently alternating with very calm weather; (6) predominance of relatively clear and sunshiny days during exacerbations of influenzal attack; these attacking periods having invariably been preceded by sudden thaws and relatively warm, damp, muggy weather.

It was and is my purpose to complete these partial investigations and analyses by separate and seriatim studies of each meteorologic phenomenon and its relation to epidemic influenza; and to consider each phenomenon over a greater number of years, so as to afford a more reliable basis for more definite and decisive conclusions.

It is quite true, as Crawford[2] intimates, that practically nothing is known concerning the external conditions—meteorologic and telluric—that presumably favor the propagation of epidemics of influenza more violently and generally at one time than at another. The hope is cherished that in this series of researches something may be learned that may have somewhat of the prophylactic value to the public health that a storm signal has to those who sail in ships and cultivate our crops; or that a local weather forecast has to those who wish to go out of doors properly and prudently clad.

TABLE I.—AVERAGE HOURS AND PER CENT. OF SUNSHINE.

	Jan.		Feb.		March.		April.		Nov.		Dec.	
	Aver. hours.	Per cent.	Aver. hours.	Per cent.	Aver. hours.	Per cent.	Aver. hours.	Per cent.	Aver. hours.	Per cent	Aver. hours.	Per cent.
1891	4.1	44	3.7	34	3.7	31	7.3	54	4.8	48	4.7	49
1892	3.6	37	3.5	33	5.5	47	5.8	44	4.2	42	4.0	42
1893	4.4	45	4.3	39	5.5	46	5.0	38	4.9	49	4.3	46
1894	4.7	48	5.8	54	8.1	67	8.2	62	5.7	57	5.3	56
1895	5.2	54	7.0	66	6.9	57	7.7	58	5.2	52	5.3	56
1896	5.6	57	6.0	56	7.6	64	9.4	71	5.3	53	6.6	70
1897	5.2	54	6.2	58	7.1	59	9.5	72	4.7	47	4.6	49
1898	3.9	40	6.9	65	5.4	45	7.1	48	5.2	52	5.1	54
1899	5.2	54	5.4	50	5.0	41	10.4	78	6.5	65	6.9	73
1900	5.9	61	5.2	53	6.8	57	8.1	61	5.1	51	5.7	61
1901	5.5	56	8.0	74	5.4	45	4.8	36				
Total aver. per cent.		50		53		51		56.5		51.7		55.6

The relation between sunshine and the prevalence of influenza is studied first simply because suggested at this time by some observations made by J. Ruhemann, of Berlin.[3] It appeared that influenza was more prevalent when the amount of sunshine was less. In the eight years from 1893 to 1900 the number of hours of sunshine in Berlin during the month of January, when influenza was most prevalent, was between 9.8 in 1900 and 62.3 in 1899; the mean being 36.4 hours. Similarly, in Madgeburg from 1882 to 1900 the number of hours of sunshine varied during the same month between 19 in 1900 and 86.3 in 1883. A dozen other German cities and towns showed similar figures. More value might, however, be attached to these manifestly suggestive figures if they had been studied in relation to the mildness or severity of annual grip epidemics; if, as in the case of the Magdeburg observations, preceding years had also been noted for Berlin, before the 1889-90 pandemic; and if other influenzal months had been compared.

TABLE II.

	Hours of Possible Sunshine.	Hours of Daily Average Possible.
January	301.1÷31=	9.7
February	299.7÷28=	10.7
March	371.2÷31=	12.0
April	398.6÷30=	13.3
November	299.7÷30=	10.0
December	291.7÷31=	9.4

As before, so now, through the kind courtesy of Mr. L. M. Dey, local forecast official in Phil-

[1] Read before the American Climatological Association, Niagara Falls, N. Y., June 1, 1901.

[2] Jour. Amer. Med. Assoc., Jan. 27, 1900, p. 200.

[3] Berliner klin. Woch., Feb. 26, 1900, No. 9, p. 199.

adelphia for the United States Weather Bureau, the accompanying tabulated data were readily obtained. The figures were taken for the six months

TABLE III.—CLEAR DAYS.

	Jan.	Feb.	March.	April.		Nov.	Dec.
1880	4	10	6	14	1880	9	10
1881	5	8	6	8	1881	12	11
1882	5	12	7	6	1882	8	5
1883	3	4	11	7	1883	16	7
1884	6	3	6	7	1884	12	5
1885	7	8	6	10	1885	5	8
1886	8	11	8	5	1886	14	9
1887	8	6	7	8	1887	10	6
1888	6	6	9	14	1888	9	14
1889	13	3	11	6			
Totals	65	71	77	85	Totls.	95	75
					1889	7	11
1890	7	7	4	10	1890	10	9
1891	11	8	7	15	1891	11	15
1892	10	8	11	9	1892	9	6
1893	10	6	8	6	1893	8	8
1894	9	5	12	13	1894	14	10
1895	8	10	13	11	1895	11	10
1896	10	10	14	9	1896	9	11
1897	11	6	8	14	1897	5	5
1898	5	12	6	6			
1899	10	11	4	13	Totls.	84	85
Totals	91	83	87	106			
					1898	8	10
					1899	14	7
1900	10	8	7	9	1900	7	11
1901	8	4	8	1			

—November to April inclusive—when influenza has been most prevalent.

Tables I. and II. should be considered together, for the obvious reason that the average hours of

TABLE IV.—PARTLY CLOUDY DAYS.

	Jan.	Feb.	March.	April.		Nov.	Dec.
1880	20	12	12	8	1880	9	10
1881	14	14	13	12	1881	2	8
1882	12	9	14	15	1882	15	19
1883	12	14	17	15	1883	6	14
1884	16	16	10	17	1884	9	13
1885	18	15	18	16	1885	12	17
1886	12	13	15	14	1886	8	12
1887	15	10	14	14	1887	12	14
1888	14	6	10	10	1888	1	7
1889	6	12	5	8			
Totals	139	121	128	129	Totals	74	116
					1889	7	9
1890	9	5	12	11	1890	13	7
1891	9	6	8	7	1891	10	5
1892	5	9	8	8	1892	8	12
1893	10	8	10	10	1893	14	15
1894	6	11	8	7	1894	5	11
1895	11	11	7	3	1895	6	7
1896	10	8	5	14	1896	10	12
1897	7	7	11	7	1897	14	13
1898	13	5	7	8			
1899	8	2	8	9	Totals	87	91
Totals	88	72	84	84			
					1898	11	8
					1899	5	10
1900	11	6	11	11	1900	6	8
1901	10	14	6	8			

sunshine, as recorded for the epidemic months, should be compared with the daily average hours of sunshine possible for the respective months, so that the percentage of sunshine (Table I., 2d col.) may be derived. It is unfortunate for the most satisfactory comparative study that the exact instrumental registry of sunshine was not begun before January 1, 1891, in Philadelphia, thus omitting the important pandemic months of 1889-90, as well as preceding normal or merely sporadic years. The other tables, though less mathematically precise in construction, nevertheless compensate somewhat for this shortcoming in their more extended antecedent record—to and including the year 1880.

In the first place, it will be noticed that the sunshine percentages for all six of the usually epidemic influenzal months for the first three years after the great pandemic were uniformly low; and lower as compared with the total average for the years 1891-1901 inclusive.

But, on the other hand, beginning with the re-

TABLE V.—CLOUDY DAYS.

	Jan.	Feb.	March.	April.		Nov.	Dec.
1880	7	7	13	8	1880	12	11
1881	12	6	12	10	1881	16	13
1882	14	7	10	9	1882	7	7
1883	16	10	3	8	1883	8	10
1884	9	10	15	6	1884	9	13
1885	6	5	7	4	1885	13	6
1886	11	4	8	11	1886	8	10
1887	8	12	10	8	1887	8	11
1888	11	7	12	6	1888	20	10
1889	12	13	15	16			
Totals	106	81	105	86	Totals	101	91
					1889	16	11
1890	15	16	15	9	1890	7	15
1891	11	14	16	8	1891	9	11
1892	16	12	12	13	1892	13	13
1893	11	14	13	14	1893	8	8
1894	16	12	11	10	1894	11	10
1895	12	7	11	16	1895	13	14
1896	11	11	12	7	1896	11	8
1897	14	15	12	9	1897	11	13
1898	13	8	18	16			
1899	13	15	19	8	Totals	83	92
Totals	132	124	139	110			
					1898	11	13
					1899	11	14
1900	10	14	13	10	1900	17	12
1901	13	10	17	21			

curring epidemic of 1893-94, the sunshine percentage shows a decided increase, except for the seasons of 1897-98 and 1898-99, during the former of which influenza was very moderately prevalent, while much more intense during the latter; and yet we have had influenza with us more or less every winter and early spring for the past eleven years, though the severity and sequelæ of the attacks may have diminished a little in some of the years.

On the whole, however, as compared with the possible hours of sunshine it will be seen that the daily average number of hours or percentage of sunshine is but a trifle over one-half for the months when influenza has been prevalent. Is this a normal condition? Or, does the group of an equal number of non-epidemic years preceding the last decade and more show a contrast to these data?

Observing Table III., we find that the total

number of clear days for the given months since 1880 up to the time of the pandemic of 1889-90 was decidedly less (by 68, see totals) than for an equal number of years since and including that mortal visitation. There were, however, 110 more cloudy days (see Table V.) for the epidemic than for the non-epidemic groups of years. At the same time, there were also 201 more partly-cloudy days (see Table IV.) for the ten years preceding than following the 1889-90 influenzal outburst.

In other words, a more moderate or average state of clearness or cloudiness—as one may choose to express it—prevailed before the "grip" attacked us so virulently; while the epidemic years have been characterized by an extremeness of these phenomena; indeed, the most rational conclusion justifiable from the facts and figures obtained is that non-equability of weather, as pointed out in my first paper, is a marked feature of influenza epidemic; and that a slight relative diminution of sunshine is associated with epidemic seasons. When one considers that less than one-third of the days were clear, and that the hours of sunshine are very few during the short days of the winter solstice, it seems not improbable that somehow *la grippe* likes the darkness better than the light. But it certainly is not inferable from these researches that there is the positive and direct causal relation between the absence of sunshine and *"die Intensität und Extensität der Grippe"* that Ruhemann would have us believe.

A CASE OF SUPPURATIVE OTITIS MEDIA FOLLOWING INFLUENZA; OPERATION WITHOUT OPENING OF THE ANTRUM; COMPLETE LACK OF ALL CONSTITUTIONAL SYMPTOMS OF INFLAMMATORY DISEASE.

BY O. WATERMAN, M.D.,
BERLIN, GERMANY.

THE case here described is of interest on account of the anomaly manifested in different points. First, because, while the entire mastoid process had been destroyed during the rapid course of the disease and while the insertion of the sternocleido muscle had been undermined, the bone surrounding the antrum and the antrum itself were found free from granulations and healthy. Under these circumstances it was not necessary to open the antrum according to the teaching of Koerner and Hessber, the latter of whom says in his book on "Suppurative Diseases of the Temporal Bone," "If after cleaning out the cavity a circumscribed maceration of the bone exists, which does not extend into the antrum, and where the bone in the immediate neighborhood of the antrum is found firm and not submerged by granulations, the penetration into the antrum is only necessary if pus still oozes from the cavum tympani and therefore suspicion of suppuration in the antrum exists."

Second, because notwithstanding the severe destruction of tissue the patient was free from all those symptoms which accompany severe inflammatory conditions.

E. F., female sixteen years old, came under my observation February 12, 1901. February 6th she had consulted a general practitioner for a severe pain in the right ear. He prescribed instillations of laudanum in olive oil and poultices. February 8th she noticed a discharge from the ear without, however, a diminution of the pain. She was then referred to me.

On examination, I found a perforation in the right drum, of moderate size, situated posteriorally and inferiorally, through which opening yellowish pus was freely discharged. The drum appeared red and around the perforation a few glistening, small, red granulations could be seen which reminded me of the "Zitzengranulationen" described by Politzer, Koerner and others. Temperature 98.8° F., pulse 78. Except for the still severe pain in the ear and an occasional headache, she does not complain.

She claims to have had a moderate cold a week ago in common with several other persons in the same family. At that time of the year influenza had been epidemic in Berlin and upon investigation the colds proved to have been attacks of la grippe, which was followed in one of the patients by a severe bronchopneumonia. At this time the mastoid process was a little painful on pressure; no swelling, however, could be seen.

Following the dictates of Teichmann, who says that in all cases of suppurative diseases of the middle ear following influenza we have to be extremely careful inasmuch as the ear complications which follow la grippe are very treacherous and that meningitis and brain abscess will frequently cause a fatal termination if in these cases mastoid complications are not quickly dealt with by surgical procedure, I determined, notwithstanding the lack of all serious symptoms, to have a careful eye on the case.

Syringing with boric-acid solution was ordered and cold application over the mastoid process. To enlarge the perforation was not found necessary. Soon the pain in the ear decreased, the discharge diminished and the sensitive area over the mastoid process was smaller. This treatment was continued until February 20th and during all this time the patient felt very well. Appetite and sleep were good. The functions of the body were regular. Temperature and pulse were never above the normal. Suddenly, on February 21st, the head could not be moved to the opposite side, the mastoid process was very painful on slightest touch and edematous. There also was pain along the entire right sternocleidomastoid muscle; discharge almost ceased. I ordered ice-bags over the mastoid process in intervals of two hours, to see whether any relief could be obtained, but, on failure to do so, the operation of opening the mastoid process was decided upon for the next day. The heart and lungs were examined and found healthy. The ophthalmoscope showed a normal papilla, but one temporal and one nasal vein appear slightly hyperemic. The

pulse that day reached at one time 104, which was evidently due to the excitement preceding the operation. It was the only day in which the pulse-rate exceeded 80. The temperature was normal.

Operation, February 22d. After the head had been shaved on the right side, the neck and shoulder were thoroughly cleansed and disinfected and then the neighboring region covered with sterilized towels. The incision through the skin, muscle and periosteum was T-shaped after the method of Faufal; the vertical incision 1 cm. behind the ear from the edge of the helix to the tip of the mastoid process; the horizontal incision vertically upon the former extending 3 cm. anteriorly and 4 cm. posteriorly and cutting through the temporal muscle. The copious hemorrhage was controlled by compressing the bleeding vessels with forceps and then the periosteum was elevated. It was found thickened and could be easily separated from the bone. The insertion of the sternocleido muscle was now severed and the external ear drawn forward with a sharp hook. Free inspection of the outer surface of the temporal bone from the linea temporalis and from the margin of the bony auditory canal to the lower edge of the mastoid process could now be obtained. The first stroke with the chisel brought away one teaspoonful of pus on very slight pressure. The undermined corticalis was removed in layers and beneath the entire mastoid process was found in a macerated condition, covered and interspersed with soft granulations, which extended very far back. The granulations were scraped with the sharp spoon, but it was found necessary to remove the processus *in toto*, as it was simply a mass of macerated bone, pus and granulations. The bone, however, in the immediate neighborhood of the antrum was hard and free from granulations and appeared healthy, so that it was thought best to leave the antrum undisturbed. Everything in the shape of bony fragments was carefully removed, the cavity wiped dry with sterilized gauze and the horizontal incision closed entirely by sutures. The vertical incision was closed to the lower angle of the wound, into which a strip of iodoform gauze was inserted to prevent adherence of the edges of the wound. The operation lasted one hour.

February 23d: Patient rested well; temperature 98.7° F.; pulse 82. The same condition was uninterruptedly observed until the first dressing was taken off. February 28th: The wound looks well. Very slight discharge from external meatus. The granulations around perforation of the membrana tympani are disappearing. Tympanum slightly reddish. March 6th: Second change of dressing. No secretion from the ear. The wound granulates splendidly, few granulations on the wound edges are touched with the lapis pencil. Appetite, sleep and general condition excellent. The wound was dressed every two days, healed very rapidly and twenty-six days after the operation only two scars, one linear and one depressed, bear evidence of the severe surgical procedure. Patient has gained nine pounds since the operation.

The hearing capacity of the right ear, which was almost *nil*, is now again as good as on the other side; watch heard 150 cm. What appears, however, most remarkable in this case is the disparity between the destructive process going on in the tissues and bone and the lack of all constitutional symptoms. If we consider that the extensive lymphatic plexuses, which are in the immediate neighborhood of the ear, favor the absorption of septic matter, it must certainly appear singular that fever and all other symptoms of inflammatory disease were entirely lacking in this case.

A CASE OF RAYNAUD'S DISEASE.[1]

BY W. A. HALEY, M.D.,
OF DURANT, INDIAN TERRITORY.

THE details of this case were as follows: I was called June 13, 1900, to see Mr. C., age fifty-five years. He was of good physique, had had rheumatism a few years ago in the knees and shoulders; this was of short duration and there was complete recovery; no history of syphilis. About May 15th he was taken with a burning pain in the two outer toes of the right foot. After a few days he called in his family physician, who pronounced the disease rheumatism and he was treated for that disease, without any improvement, until June 13th, when I was called to see him. I found him with a temperature of 100° F. The foot was cold and very painful, but not painful to the touch; there was, however, an intense burning pain inside. There was some anesthesia in the foot.

The parts had been thoroughly painted with tincture of iodine, therefore, I could not see the color of the skin on my first visit; but later could make out a cyanotic condition of the toes, foot and leg up to about the junction of the lower with the middle third. The pain seemed to come in paroxysms, at which times the cyanosis would be greatest and in the height of the attack he required morphine. At no time was he entirely free from pain. I noticed on about my second visit, which was on June 15th, that there were some blebs forming underneath and between the toes first affected. These progressed very rapidly and involved the anterior part of the sole and dorsum of the foot also. The cyanosis had extended almost to the knee by this time.

As the foot was involved in necrosis and the cyanosis reached almost to the knee, it was decided to amputate at the junction of the upper with the middle third of the leg. As the antirheumatic treatment had been thoroughly tried, I did not think it advisable to continue it further. Before an amputation was done the patient was given glonoin, hot fomentations to the affected parts, and every two to four hours the parts were painted with menthol dissolved in alcohol.

[1] Read before the Indian Territory Medical Association, June 5, 1901.

The hot applications gave some relief, but nothing stopped the progress of the disease, and, finally, on June 18th, an amputation was done at the point designated. The patient did well for the first twenty-four hours, at which time the intense burning pain manifested itself in the stump. The dressings were at once removed; there had been no effort on the part of Nature to unite the parts, instead the flaps were very white and cold, with now and then a cyanotic streak in the white. I then noticed that the femoral artery on that side had less than half the force and volume of its fellow on the opposite side; it required the closest examination to find it at all, while the other femoral could be made out easily, it being of normal force and volume.

It was decided to amputate again, this time in the thigh; as chloroform had been given before, ether was given this time. Everything was made ready, and with the usual precautions the anesthetic was commenced. Twice he became asphyxiated and at last the operation was given up, as the patient could not take chloroform or ether, chloroform having been tried lastly in the attempted second amputation. The whiteness in the stump rapidly gave place to cyanosis, and soon the necrotic process was going on in the stump as it was in the foot before the amputation.

It is needless to state that the usual aseptic and antiseptic precautions were taken in this amputation. After this the disease ran a rapid course; the cold and whiteness of the skin, followed by cyanosis, traveled up the thigh until the body was reached. Before death, which came on June 22d, a tingling sensation and numbness was felt in the hand of the same side. Death resulted from septic absorption from the gangrenous tissue necrosis in the leg and thigh. Temperature ran to 103° F. and 104° F. after sepsis began. Before that I had noticed that fever came only when the pain was very severe, but did not exceed 100° F.

The points to which I would like to call attention are that this disease is not confined to the young, nor is it devoid of fever, even before necrosis begins, as I have shown in this case. Neither is it necessarily a benign disease. Either from the intensity of the pain, or from some other cause, there resulted at times an elevation of temperature which is thought not to be in Raynaud's disease. There seemed to be an effort on the part of Nature to circumscribe the disease, as is noticed in erysipelas of the skin, not by a line of demarcation and a raised margin, but by a close blending of the normal with the pathological skin; but the process continued to involve new tissue.

The macroscopical examination of the affected limb within an hour after amputation, presented the following points of interest: The cut ends of the arteries and veins had lost but little blood. The skin maintained almost its original cyanotic appearance; the large vessels retaining their identity, while the smaller ones were lost in the tissues, which had every appearance of bruised tissue. I removed several blood clots from the long saphenous vein. I removed one some three or four inches in length; I did this by laying the vein open and lifting out the clot, it being well organized.

This affection is not similar to red neuralgia in that there was no local fever, the parts were cold, the cyanosis was preceded by whiteness of the skin, the arteries did not throb, but rather there seemed to be a constriction of the arteries; heat had some influence in relieving the intensity of the pain, cold made it worse.

THREE OBSTINATE CASES OF EMPYEMA OF THE MAXILLARY ANTRUM, CURED WITH INJECTIONS OF SOLUTIONS OF NARGOL.

BY A. G. WIPPERN, M.D.,
OF CHICAGO;
PROFESSOR OF OPHTHALMOLOGY AND OTOLOGY, CHICAGO EYE, EAR, NOSE AND THROAT COLLEGE.

THE usefulness of the salts of silver in the treatment of disease has long been recognized, the nitrate being the one most generally employed. Unfortunately there are objections to the nitrate of silver, just as there are to many other excellent remedial agents. For example it coagulates the albumins of the tissues forming a protective covering over underlying structures. For the same reason its action is necessarily superficial in the treatment of purulent inflammations of mucous membranes. This is a peculiarly unfortunate circumstance, inasmuch as the germicidal and alterative effects of the drug are thereby limited to the surface of the membrane, while without penetration of the remedy into its structure the disease cannot be cured, although it may be held in abeyance for a period.

Another objection that prevails against silver nitrate is its well-known property of turning black in the presence of organic matter and under the actinic influence of light, thus causing indelible stains that may be a source of annoyance to physician and patient alike. From these facts it is evident that a silver salt which does not coagulate the albumins nor stain the tissues or clothing, is an improvement. Nargol, a compound of silver and nucleinic acid, is such a substance.

I have found nargol to be a very efficient germicide and alterative in the treatment of three obstinate cases of empyema of Highmore's antrum. After the persistent, though futile, use of ordinary methods of treatment, I was able to effect cures in these cases by means of injections of solutions of nargol having a strength of one-fourth of one per cent. As a report of these cases may be of interest, I append them.

Case I.—C. G., aged thirty-eight years, has had trouble in the right maxillary antrum for six years. The second bicuspid tooth had been extracted and communication with the antrum thus effected, but after five years' treatment, during which the patient wore a cannula, there was no improvement in the condition. He complained

of trifacial neuralgia and asthma, both of which distressed him at times to an extreme degree.

Last June, under chloroform anesthesia, I opened the antrum by way of the canine fossa, and after curetting the cavity packed it with iodoform gauze. At that time I found that the mucous membrane lining the sinus was but moderately thickened, and I concluded that the disease was probably secondary to nasal trouble. For a month the cavity was irrigated with solutions of boric acid, hydrozone, or permanganate of potassium, with little benefit; and although the attacks of neuralgia and asthma were not so severe, paroxysms frequently recurred. It was impossible to force the irrigating solutions through the ostium maxillare into the nasal cavity, whereupon a bulb-syringe was employed by which more force could be used; but even under great pressure, with ordinary solutions, the ostium was found to be impervious. A solution of silver nitrate, 0.25 per cent., was then injected three times weekly for a period of two weeks, with some improvement in the symptoms, although the osteum remained closed. At this stage of the case nargol was brought to my attention and, glad to try anything that held out the least prospect of benefit to my patient, I began to use it in 0.25-per-cent. solution, one quart of which was injected three times weekly. After the first pint had been used the fluid was observed dripping from the nostril. From that time I had no difficulty in forcing the solution through the antrum, and soon after the neuralgia and asthma disappeared. I discharged the patient, cured, after three months' treatment. During the past winter he was free from neuralgia and asthma, despite several "colds" and an attack of influenza. This case was an instructive one in many respects. For example, the gauze packing seemed to act as an irritant and the patient got along better without it, while the silver solution reduced the swelling of the mucous membrane and altered the nature of the discharge.

Case II.—Mrs. R., aged forty-three years, had an attack of influenza three years ago, since when she has had neuralgia. There was a purulent secretion from the nasopharynx, which was in all probability carried into the stomach during sleep, and to which the patient's impaired health was due. The woman had become emaciated and was conscious of a faint odor in the nose. At times she suffered terribly with toothache, to relieve which a number of teeth had been extracted, but without benefit. When I saw her the first time she declared that life was unbearable and that she would submit to any operation that might give her relief. Accordingly the antrum was opened through the canine fossa, and with a curette a large quantity of granulation tissue was removed, together with about half an ounce of yellow, cheesy material. At least a teacupful of blood was lost. After packing the antrum with gauze the anesthetic was discontinued. Two days thereafter the cavity was washed out and repacked; this was done three times weekly for a month, when it was found that the mucous membrane was so thickened that a second curettege was necessary. The cavity was now flushed out three times weekly for six weeks with a 0.25-per-cent. solution of nargol, and with the best results. After the lapse of four months there were no symptoms of the former condition and the patient was considered cured.

Case III.—Miss P., aged twenty-two years, attributes her case of antrum disease to a carious second bicuspid tooth. After it had been extracted and a cannula inserted, irrigations of the antrum with a saturated solution of boric acid were used three or four times weekly for two years with little improvement. The patient was troubled with a more or less profuse mucopurulent discharge, and neuralgia. She readily consented to have the antrum opened through the canine fossa, which was done and the cavity packed with iodoform gauze. Three days later injections of one pint of 0.25-per-cent. nargol solution were begun and continued daily for the first week, then three times weekly for a month. After two months' treatment of this kind the opening was allowed to close, the injections having been discontinued. Three months have now elapsed and this patient has made no complaint of any evidence of her former trouble.

In conclusion I would state that gauze is not needed to maintain a patulous opening in these cases so long as the cavity is irrigated three times a week.

TREATMENT OF TYPHOID FEVER.[1]

BY BASIL M. TAYLOR, M.D.,
OF GREENSBERG, KY.

ANY disease that has a duration of two or three weeks tests the skill of the physician. The patient has but one stomach and upon this organ falls the duty of absorbing medicine and of digesting the food necessary for the nourishment of the patient. Every organ in the body suffers from the effects of the toxins of the typhoid bacillus. The mind and the muscles can rest, but the stomach and heart must work or the struggle for existence soon ceases. These are the two organs on whose integrity the safety of the patient depends.

The treatment of any disease does not consist merely in getting a patient out of bed and discharging the case. This is only the foundation. There is more honor in keeping a man out of a fire than there is in dragging his charred remains from the flames. He is out of the fire, it is true; but he is not of much further service to his family. Nature with her fixed laws is the attorney for the patient and we are the judges to sit upon the case and allow no advantge to be taken by the ever-alert bacteria that inhabit and are constantly waiting for an opportunity to attack and devour the lowered vitality.

There is one rule to guide us in the treatment of diseases, namely, "Treat the patient and not

[1]Read at the Kentucky State Medical Society, Louisville, Ky., 1901.

the disease." Keep in touch with Nature and have a scientific reason for everything you do and say. Treat the case as Nature treats it and you will be Nature's assistant. The constant irritation of the delicate mucous membrane of the stomach by medicines for two or three weeks may change a once healthy stomach into a diseased one that may end the patient's life.

When we look over our records and see the number of lingering cases of typhoid fever, we may safely say that ninety per cent. of these cases could have been different if we had treated the patients skilfully. We may nurse and feed the patient faultlessly, loving hands may smoothe the pillow and make the bed easier, anxious friends may kindly remember; but one irritating and useless drug may defeat your plans and wreck the progress of the case. Then, whose is the fault? It is not the drugs; for pills and bullets are blind and wound friend and foe alike. You can claim the fault as your own.

As typhoid fever is a septic disease we must favor assimilation. No army can win a battle without ammunition. Toxins must pass out as rapidly as they are absorbed. The system has enough to do to eliminate the toxins from the fever alone without putting extra labor of eliminating undigested food and useless drugs.

The functions of the stomach are at least three fold, it digests, absorbs, and its juices are germicidal. The three work in harmony and to impair one impairs the others. Keep in perfect harmony with the trinity. To interfere, then, for a day with the functions of the stomach, places your patient in an extra hazardous position. We frown upon the surgeon who tries to cleanse his wound and at the same time dresses it with a foul dressing or one that favors the growth of an infecting germ. But we sometimes pat the doctor on the back and label him a hero who feeds and stimulates a patient every three hours for six weeks or two months and finally lets him up in spite of his efforts to the contrary. He heaves a sigh of relief and jests about how he pulled Mr. B. through such a severe case of typhoid fever. The bacillus of Eberth is selfish enough to claim all the praise and does not mention that the doctor was responsible for the extra sickness after they finished their contract.

When called to see a patient with typhoid fever, open the journal and examine his liabilities and assets. Is the patient older than his age? If so, why? Is his pulse excited, weak or strong? If so, why? Is he nauseated, full of aches and pains? If so, why? Is there gurgling in the right iliac fossa and is his tongue foul? If so, why? If there are these symptoms, be sure that you can wash your hands clean of their cause. There is no necessity for foul tongues, delirium, sick stomach, pains, headache, insomnia, high temperature, weak pulse in typhoid fever. If we will practise physiology instead of medicine we will avoid these. When you get a fever patient in bed give him a rest. I mean a rest from the crown of his head to the soles of his feet. There will be a drain on the system, a disturbance of the equilibrium between assimilation and waste. The patient lives on himself to a certain degree. Then we must minimize waste in every organ. The patient's mind must not be upon his business. If he has been irregular in his habits, we must at once establish a regularity, in fact, we must, as nearly as possible, reorganize his organic harmony and let each organ do its work.

Let us divide our cases into two classes: First, those who are healthy prior to the acute disease, and second, those who have had some chronic disease for years. In the first class we have an opportunity to show our skill, or *put* the patient into *the second class* for the next case of fever.

Case "A" is in the first class. He is a perfect type of physical manhood. He has been complaining for a few days and has called at the doctor's office several times for medicine. He was given calomel for biliousness and quinine for malaria. His already inflamed bowel is irritated by the calomel and his liver wonders why it is dosed and stirred up for a trouble that is ten or fifteen feet down the alimentary canal and over which it has no control. He grows worse and after a chill and a restless night with aches and pains he sends for the doctor. His liver, irritated by the calomel, has poured out a lot of bile and the patient has been vomiting it for several hours. The sight of so much "bile on his stomach" proves to the doctor that he is *very bilious* and that he must have more calomel. The calomel is repeated and so are the deleterious effects of the drug.

Now keep in harmony with the trinity. The patient has been taking medicine irritating to his stomach and has been eating indiscriminately since the first symptoms of his trouble, and the chill, high fever and headache tell us of the fact.

If the physician recognizes typhoid fever at once, he informs the nurse that he must begin to nourish and stimulate the patient to tide him over a long and dangerous illness. He directs the patient to take a glass of milk or a bowl of soup every three hours and if his pulse is a little accelerated from the toxemia, he mixtakes this for an indication for stimulants and directs him to take a tablespoonful of whisky every three hours until he returns.

A link in the trinity has already been broken and we make the separation greater and, perhaps, permanent, by our feeding and stimulation. A healthy stomach has enough to do to digest three meals a day, but when the stomach of Case "A" takes typhoid fever it needs a rest for the long task it has before it. It is made to work constantly by giving food every three hours. This is kept up for a week or more until the patient begins to vomit. Antiseptics and septics have been poured down day and night, disturbing the sleep so that if the patient dies, the family and the doctor can say that every thing was done for him that could be done! This is true in one sense of the word. No wonder it takes him weeks and months to recover.

The temperature is running to 104-105° F.; the

expression is dull; delirium is present; cordes are upon the teeth; the patient sleeps with coma vigil; the pulse is weak; there is diarrhea; there is gurgling in the right iliac fossa. The patient is now in that great state called the "typhoid state."

Each glass of milk gives impetus to the trouble. The milk passes into the bowels undigested and the patient poisons himself hourly.

Now about the whisky that has been given. Here I believe another mistake is made. Why? Because the pulse, laboring under the poison, is accelerated. You mistake this for weakness or an indication for stimulation. The heart needs a rest instead of stimulation. Stimulation causes overwork and exhaustion at the time when good circulation is most needed. Let the heart alone; it knows its own business better than we do. It is useless and disastrous to stimulate a weak heart-muscle.

Now for the treatment of Case "A." The best rule is, "If one don't know just what to give, *don't give anything.* Guess work in medicine is bad practice."

There already exists an inflammation in the bowels, and it is unsurgical to cause severe peristalsis by giving a purgative. Calomel is, then, unsurgical. If the patient is nauseated, I withdraw all food until his stomach is in a condition to digest it. Then I feed him three times a day and give just such food as he can digest perfectly. If the patient is not hungry at mealtime, I direct him to wait until he has an appetite. If his stomach is taken care of this waiting will not occur very often.

His food should consist of beef-teas, beefsteak scraped into a pulp and heated gently, crackers rolled fine, eggs either raw or cooked and soup in small quantities and highly nutritious. Orange or lemon juice will be grateful to the patient and will do no harm.

Never allow the patient to eat anything that requires mastication, but always prepare food so that it needs only to be mixed with the saliva. Thus the stomach will digest perfectly and the patient will be nourished.

When the temperature runs over 100° F. I use an antipyretic, antifebrine (about three doses during the day and one at bedtime), or a tepid bath for twenty or thirty minutes, will keep the temperature down and will make the patient more comfortable. I prefer the bath where it can be given. The patient is bathed two or three times a day with tepid water for about thirty minutes and the temperature will fall. If the patient is a little restless at night I give him a sedative. Bromides act nicely and leave no bad after-effect. As a rule, patients will rest well after a few nights if the nurse will not disturb them every few hours to give medicine and food. This is a point that I wish to emphasize—*Avoid disturbing a patient during his sleep.* Rest is essential to health and, of course, a patient needs it. Let him sleep until he awakes of his own accord. I permit the patient to drink all the water his stomach can absorb. It is next to impossible to give enough antiseptics to render the alimentary canal sterile; then, too, most antiseptics are gastric irritants and their continued use is dangerous. If there is much decomposition, I use small doses of some saline cathartic until the canal is cleansed and then I use tincture of iodine and carbolic acid in small doses until they are contra-indicated. Keep the mouth clean and let the patient chew tolu for a few minutes during the day. In my effort to guard the stomach I do not forget the colon and rectum. I irrigate the colon three times a day with warm water and if there is a catarrh, I use with the water an extract of pine and then at night inject into the sigmoid flexure Dr. J. M. Mathews'[1] prescription of almond oil, bismuth and iodoform. This will relieve the catarrh and prevent the lower bowels from absorbing the putrefactive material and thus helps to relieve the system of what plays an important part in the rôle of the typhoid state.

If water is not taken in sufficient quantities by the stomach, I inject about a quart into the colon and leave it for absorption.

Case "B." This class of cases to which Case "B" belongs gives us much trouble, because we begin the struggle at a disadvantage, but we have an opportunity to use the same care and judgment as in Case "A." I have had consumptives recover from typhoid fever as easily as robust patients, but dyspeptics are a source of worry. Digestion must be watched with special care. If there is myasthenia with fermentation, we must give a small amount of easily-digested food. The white of an egg given raw with pepsin and hydrochloric acid suits this class of patients. It is digested and leaves the stomach in about an hour and a half and this gives a much-needed rest to that organ.

Do not give milk to a patient with gastric catarrh or myasthenia. Milk given to the patient every three or four hours will, I believe, kill more patients than the fever. The colon is irrigated and the baths are used as detailed in Case "A."

In order to set forth my position more clearly concerning the stimulation and feeding only three times a day as being not as disastrous to my patient as may seem, I will give a brief statement of two typical cases, "A" and "B," which were treated in the manner described.

Case "A."—Male, married, age 24 years, previous health good. First visit, October 8th; temperature 102° F., pulse 90. He had been ill four days. He was nauseated and restless. Food was withheld for twelve hours. On the fourth day his temperature was 102° F., pulse 76. October 14th, temperature 100° F., pulse 80. October 31st, temperature 99° F., pulse 80. There was not a single stimulant given and his temperature and pulse were at no time during his illness as high as on the first day, being 102° F. and 90 respectively. He made a perfect recovery.

Case "B" female, age 24 years; had been nursing child for six months. She was very pale and

[1] Mathews: "Diseases of the Rectum."

anemic and had been too weak to do her housework. I saw her August 7th, she had been sick for four days with diarrhea and chills, headache and general malaise. Her temperature was 103° F., pulse 100. Her diarrhea was painful and was due to colitis. Her digestion was poor and she had no appetite. I used injection as described and fed her as her stomach would take food. On August 13th, her temperature was 101° F., pulse 100. Her diarrhea had ceased and she was gaining in strength. Her facial expression had cleared up and her appetite was good. August 23d the temperature was 100° F., pulse 116. August 27th, temperature 98° F., pulse 106. She was fed but three times a day and she was not stimulated at all. I am glad to say she did not starve to death, neither did her heart give up the fight for lack of stimulation. I gave her an opportunity to get well, and she took advantage of it.

In the treatment of our cases let the motto be, "Remember the stomach first, the colon next."

MEDICAL PROGRESS.

Alloxuric Excretion in Leucopenia.—The original conception was that the excretion of uric acid is increased in cases of leucocythemia. This was first pointed out by Ranke and subsequently confirmed by many other observers. In most of these cases, however, the uric acid estimations were obtained by the method of Heintz which has been shown to be far from accurate. Since the introduction of the more exact methods of Hopkins, Salkowski and Ludwig many cases have been examined from this point of view with the result that it has been shown that an increase in the number of leucocytes does necessarily involve a rise of the endogenous alloxuric bodies in the urine, but that only in cases of splenomedullary leucocythemia is a distinct increase of such bodies present. ROBERT HUTCHINSON and J. J. R. MACLEOD (*Jour. Exp. Med.*, Oct. 1, 1901) report a case of leucopenia which they have studied from this standpoint. The clinical symptoms were of an indefinite nature. The spleen was greatly enlarged while the liver was only slightly increased in size. The blood-count showed 4½ million red blood-cells; 65 per cent. hemoglobin and 1,500 to 2,000 leucocytes. The lymphocytes and polynuclears were about equal in number. No eosinophiles and no abnormal blood elements were seen. There were periods of pyrexia showing an evening temperature of 103° to 104° F. During the intervals of two or three days the temperature was normal. The diagnosis of Malta fever was made on the agglutination of the *m. melitensis* by a 1 to 30 dilution of the patient's serum. The amount of alloxuric nitrogen excreted in the urine was estimated each day during two periods of eight days each. Kjeldahl's method was used to estimate the total nitrogen excreted and the nitrogen of the total alloxuric bodies was calculated by Cramer's method. In the first period the total alloxuric nitrogen averaged about .17 gram in twenty-four hours, but on two occasions was a high as .22 gram and once as low as .122 gram. In the second period the average twenty-four-hour amount was .20 gram. These fall within the limits of physiological excretion which varies between .122 gram and .20 gram. The amount of phosphorus excreted was slightly above normal. They believe that in these cases the destruction of leucocytes occurs within the spleen rather than the bone-marrow and that the excretion of alloxuric nitrogen and the number of leucocytes are not parallel to each other.

Finsen's Light and the X-Rays.—The discussion on the treatment of lupus vulgaris and some other diseases of the skin by these new methods is fully and pertinently covered by MALCOM MORRIS (*Brit. Med. Jour.*, Sept. 28, 1901) who describes the new apparatus which has recently been installed in a special institution in the West End of London and states in what important details it differs from the somewhat cumbersome and very expensive outfit of Finsen. His source of light is electrical. Focus is of absolute import. If the disease be situated so as to interfere with its delicate adjustment the result is bound to be disappointing. Up to July, 1901, the total number of cases treated was 60. Of these, 36 were lupus vulgaris; 6, lupus erythematosus; 14, rodent ulcer; 2, alopecia areata; 1, keloid; 1, epithelioma. About 20 per cent. of the lupus cases were cured, the number of sittings varying from 8 to 370. In some of the more advanced lupus infections, particularly where there was marked scarring from previous old-time forms of treatment, or where the disease had involved the mucous membrane, as in the lachrymal canal and in all cases of rodent ulcer, the X-rays were used in conjunction with the light. The immediate result of the application of the light rays is of particularly import for prognostic purposes since the ultimate good seems to be in direct proportion to the intensity of the reaction. This consists in an acute inflammation which sometimes becomes very marked before the first treatment is over and which terminates in the formation of a bleb which breaks down and dries in about a week. In the neighborhood of the eye or, indeed, wherever the tissue is loose, this is often accompanied by very great swelling. The reaction is proportionate to the light and varies with the thickness of the skin and with its color, so that but little can be done with a negro. The Danes say that the treatment is painless, but this seems to be not always the case. It must not be supposed that the introduction of this new form of treatment precludes the use of the older remedies. In all the hypertrophic forms it has been noted that both the light and the X-ray could be greatly helped if the parts were primarily treated with salicylic or pyrogallic acid.

The prognosis depends, first, on the extent and situation of the lesion. Second, on whether it has had previous heroic treatment. Third, on the

patient's patience and ability to endure the daily hour exposures, and fourth, to his ability to continue the treatment, if necessary, from a year to eighteen months. As to the future of the light treatment, one may be confidently predicted for it, since, unconditionally, it is, as yet, the best treatment for lupus that we know. Its virtue in rodent ulcer is second only to that which it displays in lupus, an action which is particularly bewildering of explanation, since there are no germs at large awaiting destruction.

Agglutinines Obtained by the Use of Bacterial Cultures in Celloidin Capsules.—The relation of agglutinines to the bacteria producing them has been much discussed. The subject is of interest from the standpoint of agglutination to infection. At one time it was thought that the presence of the microbe in the tissues was essention to the production of these substances. JOHN MCCRAE (*Jour. Exp. Med.*, Oct. 1, 1901) has investigated the subject by inclosing bacterial cultures in celloidin capsules which were then inoculated intraperitoneally into rabbits. For this work he employed various species of paracolon bacilli. After a description of the method of making these capsules he concludes as follows: (1) Capsules of celloidin allow dialysis when placed in the peritoneal cavity; (2) the normal tissues unstimulated do not possess the power of producing agglutinines; they do not require the presence of the bacterial bodies, but will produce their share of the agglutinines when acted upon by bacillary products; (3) the production of agglutinines follows the insertion into the peritoneal cavity of "capsuled" bacilli; they gradually increase in amount and on the removal of the capsule containing the bacilli begin to disappear; (4) varieties of bacilli related closely in morphology and cultural reactions do not as a rule produce sera which interagglutinate.

Mouth Organisms of Infants.—Although the microbic flora normally present in the buccal cavity of adults has been extensively investigated, comparatively little if any research has been undertaken along these lines with respect to nursing infants. The subject is of importance in relation to the local and general pathological conditions often present. XAVIER LEWKOWICZ (*Archiv. de med. exp.*, Sept., 1901) reports the examination along this line of five infants. Three of these were healthy so far as known and one and a half hours, two and a half and eight days of age respectively. One three months of age was suffering from chronic enteritis. The fifth (three months of age) was dead of diphtheria, the material for examination having been collected twenty-four hours after death. His work comprised the employment of both aerobic and anaerobic methods. The bacterial find was greatly diversified. At birth the mouth is practically sterile. Very soon thereafter the streptococcus becomes the predominating organism. A non-pathogenic pneumococcus is also constantly found. In no case was the staphylococcus aureus present. Among the bacilli present the b. acidophilus predominated. As age advances anaerobic species make their appearance. Among these the b. bifidus communis and the streptococcus anaerobius micros. were the ones most often found. Anaerobes are able to live in the buccal cavity in the numerous furrows of the mucous membrane because of the presence of aerobic species. These materially reduce the amount of oxygen present in such location. The leptothrix buccalis was also found. In the cases of diphtheria and chronic enteritis the number of normal organisms present was not materially altered.

Congenital Dislocation of the Hip.—Tolerance of the body for sterile foreign substances in one place leads to trials in other places. In congenital dislocations of the hip O. WITZEL (*Centralbl. f. Chir.*, 1901, No. 40) has lately been trying the effect of gold-plated nails. His technic is to expose the trochanter through a small incision, after the dislocation has been so far as possible replaced and secured in plaster of Paris so that the foot points directly forward and the two limbs are of the same length. When the trochanter is in view the soft parts are bluntly separated until the head of the femur can be made out. Then over its upper margin are driven into the ischium five or six gold-plated nails, close together, beginning at the front and ending low on the back aspect. The nails serve the double purpose of a mechanical check to dislocation and of a stimulant to form a socket for the head.

Neutral Red Reaction for Detecting the Bacillus Coli Communis in Waters.—Some time since it was announced that the colon bacillus reduces solutions of neutral red, changing the color to a canary yellow, accompanied by a green fluorescence. This reaction was thought to be absolutely diagnostic of this microbe, until it was discovered that several anaerobic species (*b. tetani, b. anthracis symptomatici* and *b. œdematis maligni*) produce the same result. In bouillon, however, these species only give the reaction when oxygen is excluded. R. H. MAKGILL (*Jour. Hygiene*, Oct. 1, 1901) has investigated this subject from all standpoints and finds that the colon organism when grown in bouillon in the presence of neutral red always produces this reaction within forty-eight hours after inoculation. The test is very delicate, a reaction being given even in a dilution of one to five organisms per c.c. within twenty-four hours. He believes that this method is of great value in the examination of waters for the presence of the colon bacillus. A fair estimation of the number of organisms per c.c. present may also be obtained. A negative result may be taken as evidence of the absence of colon bacilli.

Treatment of Diabetes Mellitus.—In order that a prognosis may be safely ventured and the proper line of treatment instituted, R. F. WILLIAMSON (*Med. Chron.*, Aug., 1901) believes that three forms of this disease should be recognized, namely, the mildest form, in which the ex-

cretion of sugar disappears when a rigid diet is prescribed and the urine gives no reaction with perchloride of iron; the more severe form, in which rigid diet is not sufficient to stop the sugar excretion, but the urine still gives no reaction with perchloride of iron; and the most severe form, in which diet has but little influence and a dark brownish-red coloration appears when perchloride of iron is added to the urine. The weight of the patient should always be closely watched. In the first two forms treatment is usually begun by the use of a rigid diet excluding at first all carbohydrate food, but soon adding it gradually till sugar again appears in the urine. In the severe form, however, such treatment is dangerous, frequently causing diabetic coma and a rigid test diet is here contra-indicated. A valuable list of sanctioned and forbidden foods is also given. The forbidden animal foods are liver, oysters, lobsters, crabs, and mussels. Milk may be allowed in small quantities, but cream is an especially valuable article of diet. Nearly all the prepared antidiabetic breads and biscuits contain large quantities of carbohydrates and should be tested with tincture of iodine. The treatment by mineral waters at Carlsbad and elsewhere seems to have benefited some of the mild cases, but it is strongly contra-indicated in severe types of the disease. No drugs are required in the treatment of the early and mild cases. Opium and codeine seem beneficial in the less severe cases when combined with diet. Sodium salicylate, in ten-grain doses, three to five times a day, has given the author the best results of any drugs. Its efficacy is limited, however, almost entirely to the milder cases. In the most severe cases, especially when threatened with coma, sodium bicarbonate is strongly indicated. Even 900 grains have been given in twenty-four hours. Transfusion with alkaline fluids (sodium bicarbonate) has been known to relieve coma temporarily.

Somatic Signs of Brain Syphilis.—Fifty per cent. of all cases of brain syphilis are said to occur within three years after the primary sore. According to H. T. PATRICK (*Jour. Amer. Med. Assoc.*, Oct. 26, 1901) any brain case having an odd mixture of psychic and somatic disorder, a sequence of signs illogical as regards either time or localization, or a bizarre appearance, disappearance, reappearance, amelioration and aggravation of symptoms, should awaken suspicion of lues. The most important symptoms are the following: Headache, which is present in 75 per cent. of all cases, is notoriously nocturnal in its exacerbations, but may be vesperal or may even be most pronounced during the day; severity is the rule, and location unimportant. Transient attacks may occur, such as attacks of dizziness, syncope, momentary losses of consciousness exactly like petit mal, localized numbness or tingling, spasms of varying extent and intensity. Cranial nerve paralyses are frequent and striking, especially involving the nerves of the eye. The long course of the visual tracts, almost from pole to pole of the brain, makes them liable to injury by lesions of various location; hence alterations of the visual field occur frequently. Often syphilitic disease of the cerebral meninges spreads to the spinal membranes, producing symptoms of disease of the cord or its coverings. Associated with transient paralysis from the arterial disease which is usually present, there may occur general neurasthenic and myasthenic conditions, with insomnia or moderate somnolence, without focal signs. Aids to diagnosis in some early cases are increased deep reflexes and incoordination in finer movements. A somnolent, semi-stuporous condition occurs more frequently in cerebral lues than in any other brain disease. Fever is exceptional unless pons or medulla be involved. Vomiting is most likely to occur when the posterior fossa is invaded and when a large gumma or extensive meningitis is present. Polydipsia, polyuria and polyphagia are not unusual results of brain syphilis, nor is insomnia, which may occur aside from the inability to sleep on account of headaches.

The Suprarenal Capsules in Acute Infectious Conditions.—The lesions observed in the suprarenal capsules as the result of acute microbic infection have some time since been investigated by the means of experimental research. In diphtheritic, pneumobacillic, tetanic and anthracic infections the lesions of these organs are congestive and hemorrhagic in nature. Capsular rupture subsequently occurs in the majority of cases. Diphtheritic and pneumobacillic infections produce the most pronounced alterations in these organs. R. OPPENHEIM and M. LOEPER (*Archiv. de med. exp.*, Sept., 1901) have investigated this subject in man by the postmortem study of these organs in acute infectious conditions. They examined 16 cases of diphtheria, 10 of variola, 23 of lobar and bronchopneumonia, 5 of typhoid fever, 1 of tetanus and 4 of streptococcus infection. The postmortem study of the suprarenal capsules presents difficulties on account of the fact that ordinary initial changes following death greatly simulate those produced during life as the result of acute infections. As the result of such infections the glandular cells are profoundly altered. There is also hemorrhagic extravasation into the stroma in which the polynuclear neutrophilic leucocytes are especially abundant. True abscess formation occurs chiefly in the prolonged infections of variola and typhoid fever. No peculiar alterations were observed as the result of special infections and the changes in general were common to all the cases examined. A pericapsular sclerosis, cortical and central, was present in most cases. This chronic lesion is not due to the acute process, but is to be regarded as the result of previous repeated or continued infections. These investigators regard the suprarenal capsules as possessing an important function in the resistance of the organism to infection.

Bacteriological Status in Rheumatic Fever.—The view that the general medical public has accepted the truth of the microbic origin of rheumatic fever is held by Drs. E. J. POYNTON and

A. PAINE (*Brit. Med. Jour.*, Sept. 21, 1901). Still the presence of a specific organism can not explain all the problems in the disease. Such factors as the season of the year, heredity and exposure to cold must be taken into consideration. There are five views upon the bacteriology of the disease: (1) Rheumatic fever is the result of an infection with a diplococcus, according to Von Leyden, Triboulet, Dana, Apert, Wasserman and Malakoff, Fetz, Meyer and the authors. (2) Achalme and Thiroloux describe a large bacillus which is anaerobic and variable in its morphologic characteristics. (3) Rheumatic fever is not due to a specific organism, but it is a particular reaction to various infections. (4) Those simple uncomplicated cases which react to the salicylates are due to an unknown virus and the complications are the results of a secondary infection, usually with cocci. (5) Gustav Singer and others maintain that rheumatism owes its origin to staphylococcal or streptococcal infection, that it is, in fact, an attenuated pyemia due to pyogenic cocci. In conclusion the authors think that the idea the disease is due to a specific diplococcus has met with the greatest support. Also that it is safe to say that an advance has been made from the position that rheumatic infection is due to a bacterial infection, to the position that it is due to a diplococcus infection. Heredity is to be acounted for by a theory that the human tissue is in a condition favorable for the invasion of and the infection by the diplococcus. It is natural to hope that an antitoxin may be found. The discovery of the antitoxin may be a long and difficult task, though it is unwise to prophesy.

Hepatic Cirrhosis with Severe Anemia.—A case somewhat resembling Banti's splenomegaly with hepatic cirrhosis is described by E. HOKE (*Prager med. Woch.*, Oct. 3, 1901). The patient, a woman of fifty-three, complained of weakness, pains in the extremities, occasional vomiting, slight edema of the feet. Physical examination showed unusually pale mucous membranes, a pale skin of sub-icteric hue, cardiac dulness bilaterally increased, liver and spleen greatly enlarged to percussion, both palpable, but not sensitive. There was no ascites, and physical examination was otherwise negative. The blood contained between 800,000 and 2,000,000 red blood-cells, a normal number of leucocytes, hemoglobin about 20 per cent.; nucleated red cells were present at times. The urine was at first free from albumin, sugar, indican, acetone, diacetic acid, bile pigment; later, after febrile attacks, albumin and urobilin were found in the urine. The case differs from the so-called Banti's disease in several features, the latter being characterized by ascites, atrophy of the liver and very pronounced enlargement of the spleen, whereas in Hoke's case the liver was hypertrophied, the splenic enlargement less marked and ascites wanting. Bacteriological examination of the blood was without positive results.

Syphilis.—Several important questions were recently propounded to a number of noted syphilographers and their answers were published in full. L. A. DUHRING (*Inter. Med. Mag.*, Oct., 1901) urged the importance of recognizing that there are two forms of syphilis, the benign and malignant, and the course and treatment depend largely upon this point. G. F. LYDSTON believes that the physician should take no responsibility in determining whether a man should marry or not, but should acquaint the patient with the fact that the danger of infection diminishes with the years and is practically *nil* after four or five years. O. HORWITZ states that three years of active constitutional treatment are sufficient to produce a cure, but E. L. KEYES is more conservative and names five years as the limit within which marriage should be allowed. All agree that there has been little advance in recent years in the method of treatment and no valuable drug has been added to the therapeuticum armamentarium. In the management of the case, E. FULLER suggests that the diagnosis should be positive before treatment is begun and it is much better to delay treatment till after the secondary symptoms have arisen in any doubtful case. The patient's confidence must be obtained and the treatment followed most thoroughly and relentlessly after it has been once begun.

Tubercle Bacillus in the Diagnosis of Phthisis.—A correct understanding of the relation existing between phthisis and tubercle bacilli is highly important to medical men in the diagnosis of pulmonary diseases, says D. J. A. MATHER (*Brit. Med. Jour.*, Oct. 12, 1901). A patient presents himself with a history of cough, and mucopurulent expectoration; there is a rise of temperature and night-sweats. Examination shows an area of dulness, prolonged expiration, bronchial breathing and râles. Has the patient pulmonary tuberculosis, even though repeated examinations of the sputum fail to show the presence of the tubercle bacillus? Such cases in the author's opinion are not tuberculous because of the symptoms and physical signs. If the case is really tuberculous the bacillus will be found sooner or later. (1) The presence of the tubercle bacillus in the sputum proves conclusively the presence of pulmonary phthisis. (2) There are other agents besides the tubercle bacillus which can cause destruction of lung tissue and thus produce similar symptoms. (3) The absence of bacilli in a case of pulmonary disease does not rule out tuberculosis. (4) It may be due to (*a*) simple phthisis, (*b*) faulty methods of examination of the sputum, (*c*) very early tuberculosis in the lung, (*d*) very little tuberculosis where signs of fibrosis are evident. (5) The case is hard to diagnose correctly without the bacillus after frequent examinations, especially where the history, signs and symptoms should be relied upon more than the negative evidence. (6) In all cases of pulmonary disease, a systematic examination of the sputum is of the utmost importance both for negative and positive evidence of bacilli.

Arteriosclerosis.—Too little importance is

generally attached to the functions of the arterial system, for conduction of blood is by no means its most important one. The mechanical functions of contraction and dilatation and the living functions of oxygenation, nutrition and, in short, metabolism belong to this system. C. E. NAMMACK (*Med. Rec.*, Oct. 26, 1901) in discussing this condition points to its important relation to the medical profession, whose members usually grow old rapidly because the strain of life brings on an early arteriosclerosis. The causes may be considered under the headings of heredity, age, sex, alcohol, syphilis, gout, infectious diseases, high living and hard work. The death-rate of medical men in New York and Brooklyn from 1884 to 1892 was exceeded only by that of saloonkeepers, butchers, quarrymen and underpaid factory operatives. Thirty-five per cent. of these died from the threefold sequelæ of arteriosclerosis, that is, from Bright's disease, apoplexy and heart disease.

Rheumatic Nodes in Children.—Among 75 cases of rheumatic nodes published in recent years fully four-fifths relate to patients over twenty years of age. Rarely are nodes found after a first attack of rheumatism, as in a case reported by A. JOSIAS (*La Méd. Moderne,* Sept. 25, 1901). The subject in this instance was eleven years old and was suffering from a polyarticular rheumatic attack. The nodes were situated beneath the skin, which was freely movable over them and normal in color; they seemed to be adherent to the deep tendons and in some instances to the fibrous tissue covering the bones. In size they varied from that of a hempseed to that of a lentil. They were found on the hands, about the wrists, elbows, shoulders, feet, ankles, knees and head. The patient was kept under observation during a period of two months, during which time most of the nodes disappeared while those which remained diminished in size. One of the nodes was removed for examination and was found to consist of a flabby tissue which histologically revealed a vascular network with thick walls. In cases previously reported nodes were formed of fibrous tissue and sometimes of cartilage; others are said to have had necrotic areas. Nepoen is said to have found bacilli and micrococci in the lesions; bacteriological examination by Josias was negative. The latter compares the rheumatic node to the endocardial vegetations of rheumatism; in both cases there is a cellular proliferation superinduced by the same infectious cause. Endocardial growths may occur without accompaniment of subcutaneous nodes, but the latter are always accompanied by endocardial lesions and usually by choreic symptoms as well.

Inorganic Salts and Organic Crystalline Substances and Agglutination.—Until very recently agglutinines have been considered the only necessary factors for the production of natural agglutination. Artificial agglutination may, of course, be produced by many other agents. Latterly it has been ascertained that agglutinines are non-effective for the production of this phenomenon unless accompanied by certain other substances. E. FRIEDBERGER (*C'tlblt. f. Bak.*, Sept. 16, 1901) has investigated the relation of various inorganic salts and certain organic crystalline substances to this process. His studies were limited to the cholera and typhoid organisms. For agglutinating purposes he employed two sets of specific sera. The first had been recently obtained from goats, while the second had been under preservation for some years. All salts were removed from the bacterial cultures and sera by dialysis. The inorganic substances investigated were the various salts of sodium, barium, calcium, potassium, magnesium and ammonium; the organic included among others asparagin, glucose and urea. The result of his work shows that agglutination does not take place in the entire absence of crystalline substances from the suspension fluid. Inorganic substances vary in their importance in this respect, but taken collectively are more necessary than the organic. The rapidity of the agglutination of dialyzed cultures is dependent upon the proportion of sodium chloride present in the suspension fluid. The mode of action of these substances is not chemical.

Ocular Affections of Childhood and General Malnutrition.—Besides the ocular inflammations, such as blepharitis ciliaris, styes, phlyctenular conjunctivitis, ulcers of the cornea and affections of the lacrimal apparatus, occurring in strumous or rickety children, there is a group of ocular affections in which the local conditions are not so obvious as to drive the parents to seek advice. In a typical case described by S. D. RISLEY (*Phil. Med. Jour.*, Oct. 19, 1901), a boy of twelve, who had been previously treated for hypermetropic astigmatism, was brought back complaining of severe headache and petit chorea. The child had developed an ungovernable temper, had lost a previously lively interest in school work and was regarded with aversion by his associates. Study of the eyes revealed a change from farsighted to nearsighted astigmatism, accounted for by stretching of the eyeballs. There were notable changes in the fundus, especially granular changes in the macular region of both eyes and beginning absorption areas. The child's breath was offensive, he had hypertrophied tonsils and intermittent albuminuria. Under correction of the changed refractive error, regulation of diet, outdoor life and tonic medication the boy resumed his original healthy condition and his symptoms entirely disappeared. In these cases there are usually general and ocular symptoms. Headache, general malaise, precarious appetite and variable temper, are accompanied by undue sensitiveness to light, inability to read with comfort, impaired acuity of vision, injected lid borders and conjunctiva, impaired nutrition of the globe with distention of its coats and resulting increasing refraction. The existence of a congenital hypermetropic astigmatism with faulty metabolism favors the development of pathological states which cause the distention.

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SATURDAY, NOVEMBER 9, 1901.

THE EXORCISM.

Now that the swine are about to rush violently down the steep hill of disappointment and be for a time submerged in a sea of reform, the pearl merchants may safely offer their wares to the public.

Sentiments of order, cleanliness, decency, and morality will not be trampled into the mire, but will have a permanent setting in the streets and homes of this city.

For the past two years New York has looked like a house without a housekeeper; it has been a disorderly, badly kept, extravagantly managed and dirty dwelling for its millions of inhabitants. Its rulers have protected filth, immorality and crime. They have shielded lawlessness, prostitution, drunkenness and corruption. But that day is past.

We knew what it was like to have a clean city, under the scrupulous care of the late Col. Waring, who glorified drudgery by doing his task perfectly; and we hope to be clean once more. We knew what it was to have an energetic, efficient Board of Health in the days of Mayor Strong's administration, when there was no iron hand to retard progressive work and no underlying network of politics to tangle the feet of those who went too deeply into questions of reform.

Physicians of this city are hoping for several things for which they have preached and prayed. They expect to see a renaissance of the former splendid work of the Board of Health, work that made New York's methods prominent at home and abroad, but which has recently all but had its life teased out by Tammany.

They expect to see Bellevue reorganized, and all possibility of scandal forever removed by the establishment of the City's hospital service on a system that cannot be affected by politics. They hope to see the tenement-house problem, which is almost an equivalent of the problem of tuberculosis, treated from the standpoint of humanity and sanitation. They hope to see the question of prostitution and venereal disease dealt with sensibly and soundly, for this is the type of reform that can see further than vice, and that will heed the counsels of the profession which has for years been trying to teach the public somewhat concerning the aftermath of vice.

It is worth while to be alive in New York at the present time; to think, to act, to counsel, to work for the good health of its citizens; and many an able man in our profession, who has been compelled to shut his eyes to conditions that he has been powerless to control, will rejoice that he is permitted to open them wide and point out to his fellow citizens the foci of infection and the overwhelming possibilities for the spread of disease in the existing conditions of things; and—have them remedied.

THE VAGUS AND ITS NEWER PHYSIOLOGY.

WHEN it was announced a short time ago that the Nobel Prize for the greatest advances in medicine in recent years had been divided between Prof. Finsen of Copenhagen and Prof. Pavlov of St. Petersburg, most of the Western medical world wondered. Prof. Finsen many had heard of, but very few physicians are familiar with the name of Pavlov or with his work. It is true he was selected as one of the world's representative medical men, who like Virchow and Albert and Burdon Sanderson and our own Jacobi, were chosen to address one of the general sessions of the last International Medical Congress, but even this failed to give him more than passing notoriety. His address in Paris, read in his absence by his assistant, contained some of the most striking results of his original work. Its general tenor was, however, a review of experimental physiology in the century just closing, so that the

conclusions from Prof. Pavlov's personal observations escaped special notice.

The most striking bit of original work that the distinguished Russian physiologist has accomplished is the keeping alive for an indefinite length of time after the primary operations of animals in which both vagi nerves were cut. This, until Prof. Pavlov's observations proved the contrary, has been deemed impossible. Vagotomized animals died in a sort of cachexia within a few weeks after the section of the second vagus. Schiff and Traube, about the middle of the last century, disputed as to whether death in these animals was due to trophic changes in the lungs and systemic disturbances consequent upon the lowered activity of respiration, or to deglutition pneumonia, because the interference with the sensory nerves to the larynx allowed foreign bodies to find their way into the lungs much more easily than before. Prof. Pavlov's work has opened up an entire new field, and in this day of highstrung nervous tension is most suggestive of the influence of nervous force even in the cruder processes of digestion and absorption that are so often assumed to be merely chemical or physical in character.

The now distinguished Russian investigator showed that vagotomized animals really perished because of disturbance of their digestive functions. If they were fed entirely through a gastric fistula, the upper part of the esophagus being completely closed so as to prevent regurgitation of food that might find its way into the lungs through an insensitive larynx, then the animals could be kept alive indefinitely if their food was of bland, unirritating character, and if their stomachs were washed out whenever fermentative processes caused digestive disturbance. Without these precautions the animals invariably perished with the well-known cachexia. This cachectic condition Prof. Pavlov found to be really due to a form of digestive autotoxemia besides inanition from the failure to find food in the digestive tract properly prepared for absorption. In every way the vital functions of the gastro-intestinal system were lowered by section of the vagi. Purgatives, for instance, which in normal animals produced only slight effects, in vagotomized animals gave rise to serious persistent diarrheic conditions that finally led to a fatal termination. An ordinary dose of calomel is fatal to a vagotomized animal.

The vital condition of all organs to which the vagus is distributed is distinctly impaired after vagus section. As was known before, respiration becomes much slower and even internal respiratory processes are interfered with. The supposed trophic influence of the vagus upon the lungs is denied. Animals kept alive for months after vagus section show at autopsy no trophic changes in the lungs. This is an interesting commentary on some recent therapeutic work in tuberculosis done here in America, the basic theory of which assumes that the vagi are pulmonary trophic nerves. The supposed trophic action of the vagus upon the heart muscle is also denied. At autopsy on vagotomized animals no degenerative changes in the heart muscle are found. The heart suffers as the result of digestive disturbance, but otherwise is normal.

The most interesting effect of vagus section is that produced upon the systemic heat regulation. The internal temperature of animals is usually very constant. After section of the vagi it is liable to frequent variations for very slight causes. A little exercise causes the temperature to go up 2.5° F. Exercise for a couple of hours may cause a variation of 4 to 6° F. After exercise the vagotomized animal must be watched carefully and treated by cold douches in order to prevent serious or even fatal results from overheating. Variations in the temperature of the air in which the animal is kept produce serious changes in the animal temperature. When the air rises to 85° F. the vagotomized animal responds by a distinctly febrile temperature. These animals are affected in a like unfavorable way by cold and succumb rapidly to temperatures that they were able to bear with impunity before the operation.

In a word, much of that elusive quality we know as vital resistance in tissues and on which so much depends as regards infection with disease material, or convalescence, after serious illness, is dependent on the impulses that travel down the vagus nerves, finding uninterrupted paths to the important organs. We have been accustomed to attribute much of this normal vigor to the circulation of the blood. Undoubtedly the blood has much to do with it, but the other factor of nerve force must also be taken into account. It would seem that somehow that principle of activity we call life is more especially present in the central nervous system and from here vital force finds its way to the subsidiary tissues. These ideas involve the assumption of certain theories with regard to vital force that have appeared antiquated, but are recalled to prominence by scientific advances. Their importance for the

practitioner lies in the lesson they teach that mental states are important in therapeutics and that medication may well be almost hopelessly hampered where serious disturbance of the central nervous system is brought on by emotion or worry. Mental influences have long been recognized as factors in therapeutics. These later advances in nervous physiology help to make clearer than before what are the physical bases for such hitherto obscure influences.

THE ART OF PRESCRIBING.

THE practice of writing an order for a particular form of a compressed drug or for a proprietary medicine is growing upon physicians, and bids fair to keep pace with the vast output of these skilfully advertised preparations.

The effect of this tendency is detrimental in many ways. No matter how convenient and suitable that particular proprietary form may be for the individual case, the readiness with which it may be obtained at the drug-store leads patients to recommend it to their friends who are suffering from what they imagine to be similar complaints. If the drug be an anodyne, it leads the patient into the often fatal mistake of thinking that to relieve pain is the end of medical science, and while he himself relieves his own pains allows the cause of the trouble to get beyond control. The habit of taking narcotic drugs is gaining from this very cause, that physicians simply write the name of a preparation containing them, which can be repeated without question from the pharmacist. It is surprising to see how the compressed forms of powerful drugs have in the last twenty years taken the place of the simple and often innocuous household remedies. People keep nowadays in their medicine chests and carry about in their pockets powerful doses of phenacetin, antifebrin, antipyrin, atropine, codeine, etc., which they take according to their own discretion, and prescribe generously for their friends.

The evil is by no means one of American enterprise, if we may judge from the address that Dr. Arthur P. Luff of London delivered before St. Mary's Hospital Medical Society of that city, and published in the *Lancet* of October 26th. His topic is "The Decline in the Art of Prescribing," and he takes the stand that in this era of brilliant discoveries in medicine, pathology and bacteriology, there is a tendency to neglect the treatment of the common minor ailments by drugs. He holds that one of the main reasons for the decline of the art of prescribing is the inadequate attention given to the subject by the members of the staff of the various teaching hospitals. This is undoubtedly due to overpressure of work, especially in the out-patient departments, where the use of a hospital name for a ready-made formula becomes a time-saving habit. These formulæ the student is supposed to look up, but as a matter of fact he does not; and the consequence is that, from force of habit, in his own practice he tends to use some convenient ready-to-hand preparation instead of working out a prescription suited to his patients' particular need.

He maintains that there "is no better way of acquiring a knowledge of correct dosage, and of avoiding the incompatible ingredients, than by hearing the physician or surgeon dictate his prescription, comment on the dosage of the ingredients, and give his reason for the employment of such ingredients." He holds the formal systematic lecturers of the medical schools somewhat to blame for the lack of time allotted to the students for the practical experience in diagnosis and treatment of disease.

Most earnestly does he beg the student of the day to cultivate by every means the knowledge of the art of prescribing, and never to become the instruments by which patients may be tempted to drift into the habit of self-treatment by compressed and other easily administered drugs.

To all of which we say *"Amen."*

LABORATORY DIAGNOSIS OF TYPHOID FEVER.

THE differentiation between typhoid fever and simulating conditions is one of the most frequent problems which presents itself for solution. While in a fair proportion of cases the clinical symptoms alone suffice for a correct appreciation of the condition the wide range in the symptomatology of this disease often renders the sure diagnosis by such means impossible. Particularly is this the case during the first days or weeks before characteristic symptoms have developed.

During the past few years much attention has been given to the laboratory diagnosis of this disease, with the result that several methods for such diagnosis have come into use. An impartial consideration of them will lead to a correct appreciation of their worth and a clear understanding of their application. They may be considered under three heads: (1) Blood exami-

nations including leucocyte counts and the Widal reaction; (2) the diazo reaction of Ehrlich; (3) isolation of the typhoid bacillus from feces and urine. The fact that the total number of leucocytes is materially decreased in typhoid infection has been long established. Somewhat more recently attention has been drawn to the marked reduction of the polynuclearneutrophile granules, which is in most cases established early in the disease, often in the first days, and to the fact that at this time the large mononuclear leucocytes are increased in number, so that the total leucocyte count may remain nearly normal. This quantitative relation of the leucocytes seems to be a characteristic of pure typhoid infection and, as far as is known at the present time, it does not occur in infection with any other organism save perhaps the bacillus tuberculosis. As we rarely meet with a pure tuberculous infection in man, except in acute miliary tuberculosis, its value as a means of diagnosing typhoid infection is great, especially in the first days, before other laboratory factors have been established.

The value of the Widal reaction has been much discussed and with the profession at large it has fallen somewhat into disrepute. This, we believe, is due to the inaccurate manner in which the test has been conducted and to the lack of appreciation of the limitations within which its clinical value exists. It should be remembered that the failure to elicit the reaction in a given case in no way negatives a diagnosis of typhoid, unless a number of such tests covering a considerable period of the disease have been made. Also that its diagnostic value essentially consists in the degree of dilution of the serum employed and that only positive deductions can be drawn when this dilution is high. It should also be noted that its value stands in direct relation to the duration of the disease, the further advanced the condition the greater being the liability of eliciting a positive reaction. It is, therefore, in the latter weeks of the disease that its maximum value exists.

The diazo reaction of Ehrlich, which a few years since was regarded as of great value, is now seldom employed, as it occurs in altogether too many other conditions which closely simulate in symptomatology typhoid infection. Its value may be regarded as supplementary to a slightly pronounced characteristic leucocyte-count or a positive Widal with a low dilution.

The isolation of the typhoid bacillus from feces or urine is the most absolute way of diagnosing the condition. When the methods for such have been placed in competent hands and have been employed at a proper time during the course of the disease results have been obtained which exceed in value those given by any other method. Unfortunately, however, with the present knowledge this method is seldom available in the first week. From this time on it is the method *par excellence* to be followed provided those who conduct the test have had extensive experience along this line. From a consideration of these methods it is seen that there is no one of them which is available for diagnostic purposes at all times and under all conditions during the course of typhoid fever. It is evident, therefore, that those who would obtain the best results must not be limited to any one method, but must employ that which possesses the greatest value for the particular stage of the disease.

ECHOES AND NEWS.

NEW YORK.

New York Academy of Medicine.—At the last general meeting of the Academy Dr. M. Allen Starr read a paper on "The Causation of Multiple Neuritis," which was ably discussed by Drs. Dana, Sachs, Peterson and others This paper will appear in a subsequent number of the MEDICAL NEWS.

The following candidates were recommended for resident fellowship in the Academy: Drs. P. F. Adams, S. W. Bandler, S. V. Haas, G. D. Hamlin, J. A. Hartwell, L M. Hurd, T. C. Janeway, J. M. Mills, and H. Smith; for non-resident fellowship the following were recommended: Drs. H. C. Neer of Park Ridge, N. J., and J. M. Rector of Jersey City, N. J.

On Monday, November 11th, Dr. B. T. Tilton will read a paper before the Section on Surgery on "Etiology of Unusual Forms of Peritonitis."

On Wednesday, November 13th, the Section on Otology will meet. Dr. Arnold Knapp will read a paper on "A Case of Meningitis from Extension of Acute Purulent Otitis Media through the Aqueduct of the Vestibule."

On Thursday, November 14th, the Pediatric Section will have presented a new automatic siphon for separating cream or top milk by Dr. H. L. Coit, and Dr. Milton A. Gershel will read a paper on "The Value of the Widal Reaction in Children," and Dr. David Bovaird, Jr., a paper on "Primary Intestinal Tuberculosis in Children."

The Section on Orthopedics will meet Friday evening, November 15th. Dr. Homer Gibney will read a paper on "Orthopedic Operations for Intractable Cerebrospinal Cord Lesions" and Dr.

Henry Ling Taylor a paper on "The Effect of Osteitis of the Knee on the Growth of the Limb."

Inhalatorium Man Charged with Practising Medicine Illegally.—Dr. F. Elbert Davis, who says he is the junior partner in a company which conducts an establishment called the "New York Inhalatorium" in the Astor Court Building, was arrested last week, charged with practising medicine without being registered. A warrant had been issued for his arrest on the complaint of Daniel Getz, of 212 East Seventy-Seventh Street, an agent of the County Medical Society.

A Group of Portraits.—About a year ago, within the short period of three weeks, four eminent and distinguished physicians died. Two of these well-known men (Hunter McGuire and Lewis A. Sayre) were surgeons, two (Jacob M. DaCosta and Alfred L. Stillé) were physicians, and three of them were ex-Presidents of the American Medical Association. The Arlington Chemical Company has commissioned a competent artist to paint them in oil in the shape of a panel suitable for framing, and have reproduced the painting for distribution to the profession. This group of portraits is now ready and a request will bring a copy.

New York Skin and Cancer Hospital.—The governors of the New York Skin and Cancer Hospital announce that Dr. L. Duncan Bulkley will give a fourth series of clinical lectures on diseases of the skin in the Out-Patient Hall of the Hospital on Wednesday afternoons, commencing November 6, 1901, at 4.15 o'clock. The course will be free to the medical profession.

PHILADELPHIA.

Polyclinic Hospital and School for Graduates.—Dr. John H. Gibbon has been elected professor of surgery. He succeeds Dr. T. S. K. Morton, who was made emeritus professor. Drs. S. McC. Hamill and James H. McKee have been elected professors of diseases of children.

Disinfection of Street Cars.—President Parsons, of the Union Traction Company, has notified the Bureau of Health that all cars of the Company are nightly disinfected by washing them with carbolic acid solution. The odor thus caused is noticeable in the cars, but in view of the presence of smallpox in the city patrons do not complain. New cases of smallpox still grow less in number, but the death-rate is increasing, last week showing seven less cases and two more deaths than the preceding week.

First Aid for Injured Miners.—A State law which interests every miner in the anthracite coal regions went into effect November 1st. It provides that at each colliery there shall be erected a building wherein shall be kept bandages, splints and medicines, in order that "first aid" may be promptly administered in case of accident. The act was passed by the last Legislature upon petition of the United Mine Workers. Some of the companies have engaged physicians to instruct their foremen how to handle and care for injured employees.

Dinner to Professor Waldeyer.—The Medical Faculty of the University of Pennsylvania gave a dinner at the University Club October 28th in honor of Dr. W. H. G. Waldeyer of Berlin.

Temporary Hospital for Contagious Diseases.—The committee in charge of the "Mischianza" which to be held at the Academy of Music November 11th to 16th for the benefit of the McKinley Memorial Hospital are to erect at once near Fort Mifflin a temporary hospital for the treatment of smallpox and other contagious diseases. The proposed permanent hospital has received the endorsement of city officials and physicians.

Philadelphia Academy of Surgery.—At the meeting held November 4th Dr. John B. Roberts reported a case of gastrostomy done under local anesthesia after codeine, hyoscine and strychnine had been given hypodermically. The patient had fracture of the femur at the same time. Dr. O. H. Allis demonstrated a method of intestinal anastomosis in which all the suture material is left on the inner side of the gut. He has not had satisfactory experience with the Murphy button. He believes that there is little to fear in the way of infection from passing sutures through the entire thickness of the intestine.

Dr. J. Chalmers DaCosta exhibited a patient upon whom distal ligation for innominate and carotid aneurisms had been done two years ago. The patient has a syphilitic history. The vessel-walls were in such bad condition that ligation between the two aneurisms was impossible. The carotid and subclavian were both ligated, the former just before its bifurcation. The innominate aneurism has been practically cured. The carotid has apparently reformed. Operative interference is now thought to be out of the question.

CHICAGO.

Medical Research.—Scientific research into the causes and treatment of infectious diseases will be begun within the next few weeks at the University of Chicago under the auspices of the Rockefeller Institute, and the supervision of Dr. Ludwig Hektoen of Rush Medical College. The $200,000 endowment set aside by John D. Rockefeller provides for equal distribution of the fund during the first ten years of research, and the University of Chicago receives a small share of the first year's apportionment to carry on research in a line that hitherto has been but little attempted. In the investigation at the University of Chicago a special man will be chosen, who will give his entire time to the work. Instructors in the department of pathology in the University of Chicago declare that the research which is now enabled to proceed in better form than before the establishment of the institution will enable the medical profession to secure a knowledge of the treatment of certain diseases that have hitherto baffled the best physicians.

Bedside Clinics.—At a meeting, of the Physicians' Club of Chicago, held October 28th, the

subject of "Clinical Teaching in Hospitals and Dispensaries" was discussed. Dr. Robert H. Babcock discussed the interests of the community, and Drs. Robert B. Preble and James B. Herrick spoke of its importance to the student and its benefits to the patient. The possible abuses and necessary safeguards were dwelt upon by Daniel D. Healy, Warden of the Cook County Hospital. He said that private or bedside clinics were abuses. The bedside clinic, according to Mr. Healy, is of no possible benefit to the patient. He is disturbed by the questions and examinations which interfere with those great restoratives of Nature, rest and peace. Clinical teaching in the hospital should prove of some benefit to the student, but he is only a small part of the body politic, and the damage done to those who are under his investigation far offsets the benefit to himself or to society. The speaker said that he had spent a good deal of his time in questioning the inmates of the hospital, and he had found that a general dread existed among patients in regard to the custom of bedside clinics. In some instances this dread amounted to positive agony, which might be compared to the agony of Christian martyrs awaiting their turn in the Coliseum to make a Roman holiday. Those of the patients who might be classed as "material" dreaded the punchings and the handlings and the lectures that were sure to be forthcoming in their cases. Those that were not "material" were kept in anxiety, terror and dread. At any moment they might be "material" and at almost all of the moments of the night and day their rest was disturbed and their treatment retarded by the presence and disturbances of the bedside clinics. So he thought that as the County Hospital had on its staff the most eminent scientists and physicians, its inmates were entitled to exactly the same treatment that these eminent physicians prescribed for their private patients. As a first principle of treatment they all insist upon silence, rest, and absence of excitement. If any inmate of the hospital could pay for treatment outside, he would have the street roped off, tan-bark spread in front of his house, the doorbell muffled, felt shoes on the trained nurses, and the neighboring children hushed or transported. In the County Hospital these people came to the institution helpless, almost without power of thought, and, at any rate, without power of decision. He had the highest regard for the various members of the hospital staff, and believes that the County Hospital as an educational factor has turned out the finest men in the medical profession. They are hard-working, painstaking men, and their lectures in the public clinics are of inestimable value, but there must be a line of demarkation somewhere, and he thought he had found it in obliterating the abuses occasioned in the past by bedside clinics. Warden Healy believes that clinics should only be given in the clinical amphitheater of the hospital.

Chicago Medical Society.—At a meeting, held October 30, 1901, Dr. J. Clarence Webster read a paper on "The Treatment of Raw Peritoneal Surfaces in Abdominal Operations." He said the older operators were only too frequently content with the removal of the disease without much concern for the condition of the parts left behind. For example, after the removal of ovarian or tubal swellings, the end of the stump was left raw and exposed, ready to adhere to the nearest structure. Adhesions were torn through and tumors shelled from their beds without care for the newly-rawed tissue except as regards the checking of hemorrhage. Small patches on the parietal peritoneum, the bladder and the back of the broad ligaments, may often be covered by loosening the peritoneum around them and bringing the edges together with catgut. Similar surfaces on a mesentery may be quickly closed by a continuous suture. Areas of omentum which have been freed from adhesions should never be left free. If slight, they should be covered with neighboring healthy omentum by means of catgut. If extensive, they should be ligatured near their base and then cut away. The common practice of leaving such omental stumps bare is a bad one. They should be turned up and buried in healthy omentum by means of a continuous suture. In this way there is little chance that they will adhere to neighboring structures. Adherent portions of appendices epiploicæ should be removed after separation and the raw stumps buried. Raw surfaces on the intestine may be covered by a continuous catgut suture when they are of very small size. On the uterus small areas may sometimes be covered by means of a running suture. If, however, the patches are large or numerous, transplantation of grafts of peritoneum or omentum may be tried. Very frequently he has simply cauterized such raw surfaces so as to form a black char. He is convinced that a charred surface is less likely to become adherent than a raw, oozing area—probably because the dead char acts as a protection from the subjacent living organizing tissue. In cases of retroversion of the uterus with posterior adhesions he has frequently carried out this procedure after freeing the organ. He has operated a second time on at least three women in whom he has performed suspensio-uteri with cauterization of the posterior surface and has been surprised at the small number of fresh adhesions present. He always cuts or cauterizes free tags of adhesion close to their base and buries the stump, if possible, under neighboring peritoneum.

Mode of Incision in Vaginal Section.—Dr. Webster also discussed this subject. The various methods of incision hitherto employed were described and illustrated by drawings and plaster models. The author advocates a new method for cases in which considerable intrapelvic manipulations on the tubes and ovaries are to be carried out, or in which the uterus is much enlarged, amputation of the cervix being necessary. The patient is placed in the lithotomy position, the vagina being well opened with retractors. After

curettage of the uterus, if this procedure be necessary, a circular incision is made around the cervix just below the attachment of the vaginal wall. This is joined by a mesial incision an inch and a half or more in length, dividing the anterior vaginal wall. The cervix being well pulled down, the wall of the vaginal vault is stripped upward until the anterior peritoneal pouch is reached. The anterior wall is also stripped somewhat from the base of the bladder. The uterovesical pouch is then opened. Through this opening the body of the uterus is brought down and the intrapelvic work carried out. At the end of the procedure the body of the uterus is replaced, the uterovesical pouch closed, the mesial incision in the anterior vaginal wall closed, and the vaginal flap again joined to the cervix. If anterior colporrhaphy is to be carried out on account of a prolapsed condition, the oval flap should be removed when the first incision is made. When an enlarged uterus cannot well be brought down, a portion of the cervix may be amputated after the vaginal wall is stripped up, and also the base of each broad ligament may be divided for a distance close to the uterus, the uterine arteries being ligatured if there be hemorrhage. At the end of the operation the vaginal flap is stitched over the cervical stump. If a posterior incision into the pouch of Douglas be needed to facilitate manipulations, it may easily be made by carrying the cervix forward. The chief advantage of the author's method is as follows: The uterus may be pulled down to a greater extent than is possible when the other incisions are employed, and as a result more room is obtained in difficult cases. Posterior colpotomy alone is chiefly used in the drainage of pelvic abscesses and hematomata occupying the posterior or postero-lateral portions of the pelvis, and in breaking up adhesions. Rarely a tubal or ovarian swelling may be removed by this route.

Removal of the Gasserian Ganglion.—Dr. John B. Murphy read an exhaustive paper on this subject, in which he detailed ten cases upon whom he had performed the Hartley-Krause operation. He favored this operation rather than the peripheral operation, saying that the relief was permanent, while from the peripheral operation in many instances it was only temporary at best. In the discussion, Dr. A. E. Halstead mentioned six cases upon whom he had operated, four of which were operated by the Hartley-Krause incision, and the other two by the Cushing incision. Dr. Carl Beck reported four cases of removal of the ganglion. One of his cases had been operated upon fourteen times by different surgeons, the fourteenth operation affording permanent relief. Dr. A. J. Ochsner called attention to an apparatus by Dr. Crile, of Cleveland, for the prevention of hemorrhage in all operations in the distribution of the carotid vessels. Dr. Christian Fenger favored trying the peripheral operation before resorting to the more radical or Hartley-Krause method. He had done the peripheral operation in three cases, the patients being relieved for years, if not permanently. The mortality from peripheral operations is almost *nil*, while from the Hartley-Krause and other methods it is ten per cent.

Home-Treatment of Pulmonary Tuberculosis.—Dr. Robert H. Babcock, in discussing this subject, believes that the real reason for the hopelessness on the part of the practitioner in obtaining satisfactory results in the home-treatment of tuberculosis lies in the fact that he depends too much on medicinal therapy. The most successful treatment lies, not in the use of medicinal agencies, but in the hygiene of the patient's life. Although these requirements can be best secured in a sanatorium, they can be obtained at the patient's home regardless of the climatic conditions that prevail there. Food should be taken at short intervals; it should be easily digested and assimilated, and should be of the most nutritious character in the smallest bulk. Good results are obtained from the use of milk and raw eggs. The patient is ordered to drink a glass of heated but not boiled milk the first thing after waking in the morning, and thereafter every two hours during the day, regardless of his meals. Raw eggs are taken, beginning with one after each meal, and increasing by one daily until as many as possible are consumed. Exercise is to be permitted only when the patient is free from fever and a febrile reaction does not follow exercise. The patient should spend the entire day out-of-doors, without regard to the condition of the weather, proper precautions being taken to prevent the patient from taking cold. Hydrotherapy is highly important. The one essential condition is that all measures should be followed by a good reaction.

GENERAL.

Medical Society of City Alumni, St. Louis.—The Society met Thursday, November 7th. Dr. Ludwig Bremer read a paper on "Artefacts of Blood-Examinations" and Dr. R. F. Amyx reported "A Case of Gunshot Wound of the Intestines with Nineteen Perforations."

Outbreak of Plague.—The usual recrudescence of this epidemic is now beginning to make itself felt. Thus far the march has been regular, though somewhat delayed and repressed, especially from the standpoint of numbers. New parts are becoming involved and the disease is manifesting itself in old foci of infection. On September 23d the plague was manifest in Italy and also made its appearance in France about the same time. In India for the week ending September 6th 6,455 plague cases and 4,394 deaths were registered. Egypt shows cases; South America is again reporting the disease, and its continued presence in San Francisco admits of no doubt.

Medical Library to McGill.—Dr. Osler of Johns Hopkins University has given to the medical library a number of rare books on medicine. The medical library has been much improved in the alterations of the building.

Health Conditions in Havana.—A statement concerning the vital statistics of the city of Havana for the month of September, 1901, compiled from official reports on file in the Division of Insular Affairs of the War Department, shows that the health conditions were decidedly the best attained in any month. The least number of deaths occurring in any previous September since 1889 was 496 in 1899, the greatest number 2,307, in 1898; average, 877. For September, 1901, there were 339 deaths. The lowest death-rate for September in the years referred to was in 1899, when it was 34.48 per thousand. For September, 1901, the rate was 15.64 per thousand. Taking the yellow-fever year as beginning April 1, the record of the last eleven years shows that, for the six months up to the 1st of October, the smallest number of deaths from this disease occurred in 1899, when there were 36 deaths; the greatest number in 1897, when there were 659 deaths; average, 296 deaths. This year, during the same period, there were only five deaths. Since the 1st of March, 100 men have been engaged daily in killing mosquitoes in various ways, and the result is said to be that instead of having fifty-two deaths from yellow fever and thirty-two from malarial fever, the average in September, there were two deaths from yellow fever and eleven from malarial fever last September. No smallpox has occurred for a year, and there were scarcely any cases of other infectious diseases.

Quarantine Against Liverpool and Glasgow.—Telegrams from Galveston, Tex., report that the State Health Department has issued orders to enforce quarantine against all vessels from Liverpool and Glasgow on account of the prevalence of bubonic plague at those English ports. Seven or eight ships from Liverpool and Glasgow are now en voyage to Galveston. All vessels will be detained ten days at Quarantine Station, and for an indefinite period should there be sickness on board.

Certain Trees as the Propagation of Mosquitoes.—The following preliminary note from the Marine Hospital Report is of interest. The completed work will at some future time form the subject of a special bulletin of the Yellow Fever Institute. Dr. B. M. Corput, who makes the report, says: "I have to respectfully submit the following preliminary report concerning some experiments I have been making in connection with the breeding of mosquitoes in proximity to certain kinds of trees. I hung cans filled with fresh water in thickets of oak trees, pine trees, china ball trees, and palmettos. The water in all cans was from the same source and was drawn at the same time; the cans were about the same size and were hung in about the same manner, as I tried to make the conditions as nearly the same as possible in everything except the kind of trees the can was hung in. My observations were as follows: In the oak and palmetto the mosquitoes bred readily; in the pine there were some wigglers in the can at the expiration of about three weeks, but they were not nearly so abundant as they were in the cans which were in the oak and palmetto. In the can hung in the china ball bushes there were no wigglers at any time, although I watched it carefully for five weeks. I have been obliged to discontinue my experiments for this season, as the leaves have almost all fallen off the china ball trees, but I hope to be able to make them more exhaustive next season. I would also like to try some other varieties of trees, *i.e.*, eucalyptus, camphor, and castor bean, and have to request respectfully that I be allowed to purchase a few trees of each variety to plant at this station for the purpose of continuing these experiments. While I have not yet been able to carry on this work for a sufficient time, and extensively enough to make the results positive, I believe that the china ball tree does to a great extent, if not entirely, prevent the breeding of mosquitoes in their immediate vicinity. To what distance from the tree this applies I have not yet observed, as I did not begin the work until rather late in the season. It seems to me, however, that the matter is worthy of further investigation and I hope that other officers who may have opportunities for making observations on these lines will do so, as, should the fact that the china ball tree prevents the breeding of mosquitoes be proved, it would aid much in the prevention of diseases which are transmitted by that insect."

Report of Physicians Who Examined into Czolgosz's Sanity.—Drs. J. W. Putnam, Floyd S. Crego and Joseph Fowler, the three local physicians who examined Czolgosz regarding his mental competency, filed their report with District Attorney Penney last Saturday. Their résumé is as follows: "In conclusion, as a result of the frequent examinations of Czolgosz, of the reports of his watchers during his confinement in jail, of his behavior in court during the trial and at the time he received the sentence it may be stated that he was sane at the time he planned the murder, when he shot the President and when he was on trial.

"We come to the conclusion from the story of his life as obtained from him that he had been sober, industrious and law-abiding. Until he was twenty-one years old he was as others of his class, a believer in the Government of his country and in the religion of his fathers. After he cast his first vote he made the acquaintance of Anarchistic leaders, who invited him to their meetings. He was a good listener and in a short time he adopted their theories. He was consistent in his adherence to Anarchy. He did not believe in government; therefore, he refused to vote. He did not believe in marriage because he did not believe in law. He killed the President because he was a ruler, and Czolgosz believed, as he was taught, that all rulers were tyrants and to kill a ruler would benefit the people. He refused a lawyer because he did not believe in lawyers or courts.

"We come to the conclusion that in the holding of these views Czolgosz was sane, because

these opinions were formed gradually under the influence of Anarchistic leaders and propagandists. In Czolgosz they found an intelligent and willing tool, one who had the courage of his convictions, regardless of personal consequences.

"We believe his statement, 'I killed the President because I was doing my duty,' was not the expression of an insane delusion for several reasons. The most careful questioning failed to discover any hallucinations of hearing. He had received no special commands; he did not believe he had been specially chosen to do the deed. He always spoke of his motive for the crime as duty. He always referred to the Anarchists as having taught that the killing of rulers was a duty. He never claimed that the idea of killing the President was original with him, but that the method of accomplishing his purpose was his and that he did it alone. He is not a case of paranoia, because he has not the systemized delusions diverting to self and because he is in an exceptionally good physical condition, and his unbroken record of good health and his capacity for labor have been equal to that of his fellows. These facts all tend to prove that the man has an unimpaired mind. He has false beliefs, the result of false teachings and not the result of disease.

"He is not to be classified as a degenerate, because we do not find the stigmata of degeneration. His skull is symmetrical, his ears do not protrude, nor are they of abnormal size. His teeth are regular and his palate not highly arched. Physically he has not a history of cruelty or of perverted tastes and habits. He is the product or Anarchy, sane and responsible."

Denti di Chiaie (Chiaie teeth).—The following item on dental infection is given by Dr. J. M. Eager in the last Marine Hospital Report: "On the examination of certain Italian emigrants embarking at this port, one is struck with the frequency of a dental peculiarity common among the inhabitants of the Italian littoral and known as 'denti di Chiaie,' or Chiaie teeth. This defect was first described by Prof. Stefano Chiaie, a celebrated Neapolitan, and bears his name.

"The impairment of the teeth, often not amounting to more than a mere imperfection, is of particular interest, owing to the fact that Italians who are subjects of the defect frequently present themselves before the medical practitioner in the United States. The deterioration, however, is an acquired one, due to local geological conditions and so, because of altered hygienic surroundings, will not pass beyond the present generation of Italians in America. Strong, well-formed teeth not particularly prone to decay appear to be the rule among young Italians when they have not been subjected to the influence during infancy of the causes of Chiaie's disease. The etiology seems to be connected with volcanic fumes or the emanations of subterranean fires, either fouling the atmosphere or forming a solution in drinking water. In Naples it is more often attributable to water than to the air, and since the Serino water, brought in conduits from a distant mountain height, has been in use and local wells condemned the incidence of the disease among infants has greatly diminished. Formerly nearly all children living in the section known as Santa Lucia, along the Riviera, and at Posillipo were affected.

"The people of Pozzuoli, a town of 16,000 inhabitants, situated five miles from Naples, are marked off from the people of neighboring places by their distinguishing characteristic of black teeth (denti neri), apparently strong and serviceable, but devoid of enamel and hideously dark. The environs of Pozzuoli are everywhere volcanic. Close at hand is the Solfatara, a half-extinct crater full of cracks from which gases are constantly issuing. Some of the inhabitants of Pozzuoli drink the water of springs, a water necessarily charged under pressure with volcanic fumes; all of them are constantly living in an atmosphere filled with noisome gases.

"The theory most generally received in Italy is that these gases have a selectively hurtful effect on enamel formation in early childhood, but that the growth of the other dental tissues is not interfered with. When the cause is active during the entire period of second dentition, the whole tooth is bereft of enamel and becomes perfectly black. If the growing teeth are exposed for but a short time at the commencement of their formation, only the cutting edges of the upper incisors may be affected and the appearance, when the teeth are matured, is as if they had been browned by tobacco smoke in the same way that a meerschaum pipe is colored by smoking. Sometimes the teeth have the repulsive look of fever patients' teeth when smeared with sordes, except where covered by the half-parted lips.

"Among the better class of Italians living inland, it is the custom to go to the seashore in summer. Naples has always been a popular resort, and as a result of the temporary exposure of children brought with their parents to Naples at the time when Serino water was not used, it is frequent to see among well-to-do people an otherwise handsome face marred by a line of fine, black markings crossing the incisor teeth in a horizontal direction. This fault of development is known among Neapolitans as 'denti scritti' or writing on the teeth. The marking, when present on finely-formed, white teeth, resembles the diminutive lettering which is sometimes done on seashells for purposes of ornamentation The different forms of deterioration which are grouped under the name of 'denti di Chiaie' are thus seen to be quite unlike any other dental disease and not at all likely to be confounded with Hutchinson's teeth, mercurial teeth, caries, or other maladies of the teeth."

Tetanus from Antitoxin Serum.—The report from St. Louis is confirmed by a special correspondent, who writes: "There have been several cases of tetanus in this city following the use of anti-diphtheritic serum furnished by the St. Louis Board of Health. Within six days

eight children have died, two other children are critically ill, and possibly others are affected. The first case was that of a five-year-old child in the City Hospital, whose symptoms resembled those of meningitis to such an extent that the diagnosis of tetanus was not made until shortly before death. Others of the cases seem to have had atypical symptoms, but most of them showed the classical signs of lockjaw. One case at the City Hospital received an injection of tetanus antitoxin into the spinal canal, but without effect. Another received an intracerebral injection of tetanus antitoxin, also without effect. The city has manufactured its own antitoxic serum since 1894, the work being supervised by Dr. Amand Ravold. On August 24th a quantity of serum was taken from a certain horse, properly sterilized and tested upon guinea-pigs. This was distributed to physicians throughout the city. On September 30th the horse was again bled. On October 1st the horse showed symptoms of tetanus and was killed. The serum taken September 30th was at once destroyed, none of it having been distributed. Since the discovery of the infection of the serum all of it has been recalled, but between the time of its distribution and the time of its recall a considerable number of injections were made. Just how many cannot now be stated. It is, therefore, to be feared that a few more cases of tetanus may develop. The Health Commissioner, Dr. M. C. Starkloff, has directed an investigation of the entire matter by Dr. B. Meade Bolton, late of the New Jersey Health Department, now director of the Marion-Sims-Beaumont Pathologic Laboratory in this city, Dr. E. C. Walden (Johns Hopkins) of the J. T. Milliken Company, and Dr. Carl Fisch, a pathologist of some local repute. The coroner is also conducting an investigation."

To Guard Against Plague.—Health Officer Doty of New York has forwarded to Washington a report on the quarantine precautions he deems necessary to guard against the introduction through Atlantic ports of the plague which has broken out at Liverpool and Glasgow.

Obituary.—Dr. J. Mortimer Crawe, Sr., died in Watertown, N. Y., last week at the age of seventy years. He was the oldest practising physician in that section of the State, and was the first vice-president of the New York State Medical Association.

CORRESPONDENCE.

THE EXECUTION OF CZOLGOSZ.

To the Editor of the MEDICAL NEWS:

DEAR SIR: Agreeably to your request the following brief account of the execution and autopsy of Czolgosz, the assassin of President McKinley, is respectfully submitted:

The execution by electricity of Leon F. Czolgosz, which took place in the State Prison at Auburn, New York, on the morning of October 29, 1901, terminated the earthly existence of the most monstrous magnicide of the age. Every precaution was taken by the Warden of the Prison, under whose immediate supervision and direction the execution was conducted, to minimize the opportunity for notoriety, as well as to insure that the taking-off of the prisoner should be effected in an orderly and dignified manner.

The official witnesses, consisting of prominent New York State officials, several physicians, representatives of the respective press associations and two official physicians—Dr. John Gerin, Prison Physician, and myself—having been assembled in the execution room and received the usual admonition from the Warden as to the maintenance of order and quiet during the execution, the prisoner was conducted to the room by a guard on either side a few minutes after 7 a. m. As he entered the room his head was erect and his manner self-possessed and defiant. Immediately after being placed in the fatal chair the binding straps were quickly adjusted to his arms, legs and body, the head and leg electrodes were placed *in situ* and connected with the wire which was to transmit the lethal current through his body. The criminal offered no resistance whatever, but during the preparations addressed himself to the witnesses in the following significant language: "I killed the President because he was the enemy of the good people—the good working people. I am not sorry for my crime. I am sorry I could not see my father." At this juncture, everything being in readiness, the Warden gave the signal to the official electrician in charge of the switch, who immediately turned the lever which closed the circuit and shot the deadly current through the criminal's body. The instant the contact was made the body was thrown into a state of extreme rigidity, every fiber of the entire muscular system being in a marked condition of tonic spasm. At the same time consciousness, sensation and motion were apparently absolutely abolished.

Czolgosz was pronounced dead by the attending physicians and several of the other physicians present in four minutes from the time he entered the execution room, one minute of which period was occupied in the preliminary preparations, one minute and five seconds in the electrical contacts and the remainder of the time in examinations by the physicians to determine the fact of death.

Two electrical contacts were made, occupying in all one minute and five seconds. In the first contact the electro-motive pressure was maintained at 1,800 volts for 7 seconds, then reduced to 300 volts for 23 seconds, increased to 1,800 volts for 4 seconds, and again reduced to 300 volts for 26 seconds, when it was broken. The second contact was maintained at 1,800 volts for 5 seconds. That conscious life was absolutely destroyed the instant the first contact was made was conceded by all of the witnesses.

Immediately after the execution, the lay witnesses having departed, an autopsy was made by Mr. Edward A. Spitzka of New York, under the

direction and supervision of the official physicians and in the presence of several of the visiting physicians who were invited to attend. The autopsy occupied more than three hours and embraced a careful examination of all the bodily organs, including the brain, all of which were found to be in a perfectly normal state—a conclusion which was concurred in by all the physicians present.

In compliance with the expressed wish of the relatives of the criminal, the Superintendent of State Prisons, who was present, and the Warden, declined positively to allow any portion of the body to be removed from the Prison. Consequently, and regrettably, it was impossible to retain honorable possession of any portion of the brain for future examination and study. Accurate drawings, however, and detailed anatomical descriptions of the brain were made by Mr. Spitzka for subsequent study and report. A careful, naked-eye examination of the brain in all of its parts was also made and full notes taken thereof. The organ and its appendages appeared to be absolutely healthy and free from any abnormality whatever, thus corroborating the opinion of the mental experts who had examined the criminal during life, namely, that he was perfectly sane.

Respecting the question of Czolgosz's mental condition, it appears that all of the mental experts at his trial, on either side, namely, Drs. Putnam, Fowler and Crego for the people, and Arthur W. Hurd and myself for the defence, after repeated examinations, concurred in the opinion that he was sane. A final examination of the criminal, with reference to his mental condition, was made by Dr. Gerin and myself at the Auburn Prison on the evening before his execution with entirely negative result. In fact, none of these examinations disclosed, in the opinion of any of the experts, the slightest evidence of mental disease or mental degeneracy. On the contrary, he was regarded as exceptionally intelligent for one in his walk of life. Furthermore, this conclusion was fully corroborated by his manner, appearance and declarations in the execution room as well as by the postmortem findings. Moreover, Czolgosz's bearing, conduct and declarations from the time he murdered the President down to that of his execution have been entirely consistent with the teachings and the creed of Anarchism and stamp him as an Anarchist of the deepest dye.

CARLOS F. MACDONALD, M.D.

85 Madison avenue, New York.

THE CAUSE OF BALDNESS.

To the Editor of the MEDICAL NEWS:

DEAR SIR: Frequent reference has been made of late in the MEDICAL NEWS to the subject of baldness. Fortunate the man who shall reveal its cause! One doctor is sure that it is due to the more vigorous intellectual activity of the male sex. Another scouts the idea and points to the head dress, and still another would have it that abdominal breathing is the cause of this distressing condition.

I am not going to reveal the cause in this short note, but there are just two facts which I have observed here that may throw some light on the subject. One is that the men wear tight hats all the time—many of them day and night—and very few of them are bald. The second is that the few whom I know are bald are those who are above their brothers in intellectual activity, such as our college teachers, preachers, etc. I am speaking now of the native population. These same bald people, following the fashion of the missionary, do not wear their hats so constantly as do the uneducated village people who are not bald. Elisha's bald head must have been a notable exception to the majority of heads in Jericho, and hence the attention he attracted. This condition of baldness, like many other conditions of disease, may be due to a combination of causes. It would be interesting to know the percentage of bald heads in a generation of men free from gonorrhea and other venereal diseases.

E. T. MILLER, M.D.

Urumia, Persia, Sept. 13, 1901.

OLEIC ACID IN COLIC.

To the Editor of the MEDICAL NEWS:

DEAR SIR: In one of your latest issues there is a note by Vevet, alluding to the use of oleic acid, in which he speaks of using this drug ten or fifteen days before an expected attack of colic. I would like to ask if any of your readers have ever been able to demonstrate a genuine periodicity in hepatic colic. I have, of course, seen cases in which one might anticipate an attack, knowing that the patient expected to take unusual exercise or was becoming careless with regard to diet, and I can imagine that a malarial dyscrasia might act as a periodic exciting cause, but, as to intrinsic periodicity, my own experience has led to considerable skepticism.

A. L. BENEDICT.

Buffalo, Oct. 14, 1901.

PARIS LETTER.

(From Our Special Correspondent)

PARIS, Oct. 14, 1901.

CONSUMPTION AMONG POSTMEN IN PARIS—BAZY ON URETERAL CATHETERIZATION—SANATORIUM FOR THE EMPLOYEES OF THE LOUVRE—THE BUBONIC PLAGUE ON BOARD THE "SENEGAL."

DR. GRENIER, physician attached to the postal and telegraphic service in Paris, has been publishing some statistics on the number of cases of tuberculosis which he has seen amongst the employees under his care. His statistics extend over six years and show a large number of cases of consumption. Thirteen per cent. of the vacations allowed were given for this disease. There were 720 cases of diseases of the respiratory organs (leaving out influenza) and 589 cases of consumption, which makes a very large percentage.

The employees who are obliged to remain in the post-offices show a much larger percentage of cases than those whose service keeps them out of doors, such as the postmen and drivers.

The discussion between Dr. Bazy and Dr. Albarron as to the usefulness of catheterization is not over yet. Dr. Bazy made a long communication to the Society of Surgery on the merits of the use of methylene blue and phloridzine as compared with ureteral catheterization. He is much opposed to this latter method and described the case of a patient who had been catheterized by Dr. Albarran, and then operated upon by him. The patient had had fever after the exploration, and the result of the analysis led Dr. Albarran to recommend nephrotomy. Dr. Bazy used both phloridzine and methylene blue and decided that the condition of the other kidney was such that nephrectomy could be performed. The operation was successful.

The establishment of sanatoria is very much talked of at present, and special establishments are being put up for different classes of people. The employees of the large stores suffer considerably from tuberculosis on account of the bad air they are obliged to breathe. The directors of the Louvre, one of the large Paris stores, have erected at Tournau a hospital containing 16 beds, where employees showing signs of fatigue may be sent.

A periodical, called the *General Review of Sciences,* organized recently an excursion to Asia Minor and Palestine. A steamer, the "Senegal," was chartered and left on the 14th of September from Marseilles. There were 186 passengers on board, amongst whom were 19 physicians. Professor Terrier, Dr. Bucquoy, Chauffard and Richardiere, physicians of the hospitals, were on board. Soon after the steamer had sailed two cases of bubonic plague were discovered among the crew, and the boat had to put back to Frioul, the sanitary station of Marseilles. The second officer has already died. The rats, which had caused the contamination, were found on the first day. Over a hundred and twenty were found in the hold. They were already in an advanced state of putrefaction and it would seem that the infection took place the last time the boat went through the Suez Canal. Orders had been given to have the steamer thoroughly overhauled, but such a precaution can hardly have been carried out effectively. All the tourists, with the exception of 13, have been inoculated.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

OPERATIVE TREATMENT OF PUERPERAL FEVER—TOBACCO AND ALCOHOL WITH RELATION TO AMBLYOPIA—REFLEX NYSTAGMUS—OPTIC NERVE IN BASAL FRACTURES.

E. BUMM, at the Verein der Aerzte in Halle a. S., July 3, 1901, read a contribution on operative treatment of puerperal fever, in which he made the following points: Notwithstanding all aseptic and antiseptic precautions cases of septic puerperal wound infection have not materially decreased in practice among private families. Instances of septic and fatal puerperal fever, which resist all local and systemic treatment are still so common that the physician is inclined to ask whether surgical intervention would not be advisable. The simplest and most often employed surgical treatment of these cases is curetting. It has the great objection that in the presence of streptococci, which are by all means the commonest germs at the bottom of these cases, a sharp denudation of the endometrium opens wide the avenues for a rapid spread of the germs over and into the raw surface, then into the metrium, finally through veins and lymphatics into the general system. These observations are applicable to all cases of this class, no matter whether the surgeon is dealing with a case of pure endometritis, retained placenta or undischarged fruit in abortion, so long as sepsis is locally present. The only safe way of emptying the uterus in this class of lesion is with the bare fingers, because every possible degree of cleansing can thereby be accomplished and little or no damage done to the tissues. The next surgical treatment is extirpation of the infected uterus. Here again the limitations appear to be drawn equally sharply. In two successful cases out of five, Bumm found in the former true sapremia, in the latter streptococcus infection. No matter what precautions are taken these germs almost necessarily invade the wound and set up either septic pelveoperitonitis or local abscess or general peritonitis. Sapremic endometritis practically always gets well of itself, without much far-reaching gangrene. Hence, in the presence of both diseases, it is reasonable to say that extirpation of the uterus is not indicated nor justifiable. When the infection is active enough to spread, it does so either over the mucous membrane into the tubes or through the venous and lymphatic channels into the parametria. Tubal infection leads directly to pelvic tumor or after adhesions with the adjoining organs. As a rule gonorrheal abscess permits early operation with a rather good operative prognosis, but it is otherwise with the streptococcic. Early evacuation of such collections commonly finds an active virulent pus which may immediately and fatally infect the general peritoneal cavity. Such a calamity may also occur in an abscess many weeks old. It is therefore wisest to assume no risks, but to reason that localization indicates some success on the part of Nature in combating the disease. It is, therefore, best to assist this process until the pus shall probably have lost its poison and then to hasten matters by evacuation. Spread of the streptococci directly through the myometrium or through the lymphatics to the peritoneum, usually means septic peritonitis. For this dreadful state all known means fail to do any good, multiple incisions, free irrigation, wide-open drainage, etc. When an abscess has formed and Nature made some progress in fighting the dis-

ease surgery may succeed. But in these cases evacuation must occur where the abscess has become adherent to the abdominal wall. The most minute care must be taken even then to provide against any pus reaching the abdominal cavity. In the truly pelvic abscess, which may be drained by the vaginal route, a similar precaution must be followed. At first it may be seated high up and very unsafe to puncture. The best dictum to follow is that when possible all abscesses demand first expectant treatment, until they manifest themselves by a swelling in the vagina or a palpable tumor through the parietes. Evacuation by either route will then be as safe as possible. Puerperal pyemia is another most serious condition in which surgery accomplishes but very little. It is usually a matter of septic thrombosis in any or all of the veins about the uterus, tubes and ovaries. Too often interference spreads the disease to a fatal degree.

BERNHEIMER (Innsbruck), at the meeting of the Ophthalmological Society in Heidelberg, August 5, 6 and 7, 1901, gave the following observations on the relations between tobacco and alcohol and amblyopia. Twenty cases of either or both combined have been under his care during the last year. Eight of these were railway employees who had been sent to him for early cataract. These did show a reddish tint apparently in the cornea, which on careful examination was shown to be an axial change in the retina. This is a very early symptom of the disease of functional nicotine or alcoholic derangement, which is only passingly mentioned in some of the text-books and not at all by others. Since the cure of this disease rests largely upon an early diagnosis, search for this sign must be carefully made. The same observer has noted four patients in whom anomalies of refraction and two in whom dry conjunctivitis produced a purely reflex nystagmus. In one form the nystagmus depends upon hypermetropia when without due correction the eyes are used for near-work. The reflex is then to be explained by increased accommodation and convergence. The second class of these two seemed to depend entirely upon dry catarrh of the conjunctiva with or without hypermetropia. This class of case is not mentioned in literature. In one of his patients it was enough simply to lift the lids or even the lower lid away from the eyeball without making any pressure thereon to excite the most active possible nystagmus. The cause seems to be irritation of the end-filaments of the fifth nerve by the sudden drying of the cornea and the conjunctiva when these are exposed to the air by lifting away the lids. In both cases pure reflex is at the bottom of the trouble, in the former by undue muscular strain and in the latter by sensory, then motor irritation.

UHTHOFF (Breslau) gave a contribution on the state of the optic nerve due to hemorrhage into its sheath after fracture of the base of the skull. He has had two cases in which large hematomata developed and an autopsy was had in each case. All four nerves showed marked hematoma of the sheath directly behind the bulbus oculi. During life the nerve-disc was prominent (very prominent in one case) and in both very like a choked disc. Death came early in both patients and in each the fractures involved the middle cranial fossa and showed both extra- and intradural hemorrhage. In neither subject was the roof of the foramen opticum affected by the break in the bones. Ophthalmoscopic examination showed during life with absolute accuracy optic neuritis, venastasis, edema and massive prominence of the papilla. He offered the following points as suggested by the autopsy: (1) The relation between the optic nerve hematoma and the optic canal. The latter was in each case intact, but the blood had traveled along and within the sheath directly from the cranial cavity. Other authorities, on the contrary, point to the frequency with which the optic canal is involved in a fracture of the base and the nerve shows the lesions of neuritis. Panal relates a case in which real bleeding took place from the eye-cavity, but the optic nerve escaped. (2) The significance and value of an ophthalmoscopic examination in all possible cases of suspected basal fracture and especially for the signs of neuritis, venastasis and bulging of the papilla. His findings seem to prove that hematoma does not produce an anemia of the retina, as is supposed to exist with embolism and thrombosis. (3) Functional disturbances due to hematoma of the nerve-sheath were theoretically enumerated. (4) Other causes of such hematoma might be any other intracranial bleeding, apoplexy, pachymeningitis hemorrhagica, nephritis, scorbutus, hemophilia, etc. At best it is a rare condition.

SOCIETY PROCEEDINGS.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held October 1, 1901.

The President, Joseph Collins, M.D., in the Chair.

Contribution to the Study of Spinal Fracture, with Special Reference to the Question of Operative Interference.—Dr. George L. Walton of Boston presented a paper on this subject, dwelling particularly on the question of whether it was not desirable to make early operation in this class of cases the common custom. The author said that there were no symptoms which would lead one to assert that the cord was or was not unquestionably crushed. In the cases of so-called complete injury one finds immediate relaxed motor paralysis and entire absence of rigidity or other irritative sign in the motor sphere. Partial injury to the cord might be indicated by slower onset of paralysis, its unilateral or irregular distribution, the partial retention of the reflexes and subsequent improvement. In fracture with total transverse lesion the area of anesthesia was generally sharply marked, and the level was materially below the seat of the lesion. The classical symptoms of complete trans-

verse lesion certainly do not indicate conditions beyond repair. Incomplete anesthesia points to incomplete lesion of the cord; the same is generally true of anesthesia of limited or unilateral distribution. Injury to the nerve-roots alone sometimes appears in the cervical region after stretching and bruising, perhaps with temporary displacement of vertebræ. The diagnosis of local concussion of the spine was still applied by certain authors to such cases. Retention of urine was the rule in all varieties of spinal fracture with injury to the cord whether the lesion involved the cervical, dorsal or lumbar cord. This probably showed that mechanical conditions prevent the escape of urine so long as the propulsive force is lacking. The symptoms referable to vasomotor disturbances are evasive and baffling. The usual rise of surface temperature might perhaps be explained by the dilatation of superficial blood-vessels due to the cutting off of the vasoconstrictor influence from the medulla. The absence of sweating tends to fortify the theory that the principal sweat center lies in the medulla, the fibers being interrupted in their course by the lesion. Sweat secretion appears to be due to specific nerve influence conducted by specific nerve fibers and not to heat. It is now generally recognized that the knee-jerk is lost in cases of complete destruction of the cord and cases of spinal fracture constitute no exception to this rule. The superficial reflexes were generally lost or diminished in these cases, and were probably always lost in the complete lesions. The Babinski reflex was a common later phenomenon, but he would doubt its occurrence in cases of total destruction of the cord without reparative process. The local signs, such as the formation of a knuckle, were very variable and not of much significance. Operation often shows that the apparent irregularity is of no importance. It should be remembered that a great variety of curves are found in the back in healthy persons free from injury. This statement was fortified by the exhibition of a series of tracings from the backs of healthy students in the Boston Normal School of Gymnastics. The Roentgen rays might prove of value in making the diagnosis, but in his own experience this method had not yielded satisfactory results. The prognosis in cervical cases without operation was generally grave, death usually occurring within a few days. In cases of fracture of the dorsal or lumbar region without operation the prognosis was better, but still very grave. The fatality in non-operative cases was about 80 per cent. The statistics at hand were not very reliable regarding operative cases, because many unsuccessful cases were not reported. The cases operated upon at the Massachusetts General Hospital since 1870 yielded a mortality of about 64 per cent. In some quarters laminectomy was not advocated, or was even denounced. Apprehension regarding the danger of the operation had been entirely allayed, and many cases had been reported showing that laminectomy is not dangerous by reason of the weakening of the spinal column. It was doubtless true that in most cases the crush of the cord had taken place. The author was inclined to think that owing to the decided limitations of our diagnostic ability it was well to resort promptly to operation in all cases, except the moribund and those with great displacement, and give the patient the benefit of the doubt. According to his personal experience the course of the operative cases coming under his observation had been more favorable than he should have expected without operation from his previous experience and his knowledge of the literature. The neurologist was often asked whether it was wise to open a dura at the operation, and his answer should be in the affirmative. An edematous condition of the arachnoid was apt to exist, and would be relieved by such a procedure, but the chief reason was the opportunity this afforded for inspecting the cord. Of late the custom had been not to suture the dura, but to leave it open. It had been the usual custom in the past to secure drainage for a day or two, but various recent operators had demonstrated that it was not at all necessary, and by eliminating drainage one could secure quicker healing and greater immunity from sepsis. In cases of grave shock it would seem to be reasonable to delay operation if only to better interpret the symptoms. Rapidity of operation was important, and the surgeon need not fear injuring the cord by the use of forceps.

Dr. Charles L. Dana said that his own experience had led him to believe that the operation is practically safe, and that the spinal column itself is not injured by the operation. He had not had any fatal results in his operative cases, about half a dozen in all, and two of them were cases of injury in the cervical region. It was a matter of astonishment to him that such long and severe operations could be done upon these patients without sacrifice of life. He must confess, however, that the ultimate results of these operations had not been satisfactory, according to his observation. He had seen some improvement in motion and in the bladder symptoms in these cases, but that had been about all, and it was quite possible that such improvement would have occurred without operation. If by clinical observation one could be sure that the cord was crushed one should not recommend operation. This could often be done. If there was a line of anesthesia coinciding with the line of paralysis, and this co-existed with the absence of knee-jerks, he would feel almost positive that the spinal cord had been cut across although there were certain exceptional cases affecting the cervical region which did not seem to follow this rule. It seemed to him that the operation performed by Lloyd, and which the speaker had seen employed by Abbé, was the quickest, safest and most effective. The author had done a service in bringing up this subject and urging a more persistent effort to relieve this distressing class of cases. The general opinion among surgeons was that this was a class of cases which

hold out but little hope of benefit from operation.

Dr. Edward D. Fisher said that he had had a number of cases of fracture of the spine under his observation, and in the main he would agree with the reader of the paper that an operation is advisable. He would do this because death rarely occurs as the direct result of the operation. Where there had been a fatal termination he felt that the same result would have occurred if there had been no operation. In two cases that had been under his observation in which cocaine had been used, the operation had been done as well as under general anesthesia. In one of the cases the injury had followed a dive in shallow water, and in the other from an acrobat diving off the shoulders of another acrobat. The lesions had been about the same in each case, and because of the situation of the lesion they had been afraid to administer a general anesthetic. When the cord was touched there was a sensation of pain, but no localization, and the operation was conducted without any more shock than with general anesthesia. He agreed with the reader of the paper that it was almost impossible to make an accurate diagnosis between cases in which the cord had been partially or completely crushed. He did not believe that a lesion through the cervical region, with an absolute loss of reflexes, positively indicated that there had been a complete destruction of that region. Sometimes on cutting down and exposing the cord one observed very little change in the appearance of the cord until the dura had been cut. Even then there might be very little change because of a hemorrhage in the substance of the cord. The distribution of the sensation in almost all of these cases was irregular, so that the classical picture was rarely observed. In many cases where there had been absolute loss of reflexes there had been partial recovery—indeed, in his experience it had been the rule to see only partial recovery.

Dr. Graeme M. Hammond did not think it was always possible for the neurologist to say that the symptoms presented were positively indicative of complete destruction of the cord. In one case coming under his observation, in which a young man had fractured his fourth cervical vertebra by diving in shallow water, there had been evidence of complete injury to the cord. He had been operated upon a year or two afterward, but it was needless to say there had been no resultant improvement. In another case in which there had been an incomplete injury to the cord, and in which operation had been resorted to shortly afterward, there had been complete recovery and the man had returned to his occupation of wrestler. Within a few days he had seen a very interesting case. It had been first reported four years ago. Several bales had struck the patient on the back, and almost immediately he had presented the symptoms of tabes, pure and simple. He had had no reflexes and almost complete anesthesia with the Romberg symptom. He had been operated upon twelve weeks after the injury, and had made a complete recovery with a return of reflexes. He had seen this man within a few days, now twelve years after the injury, and he had then presented absolutely no symptom of injury to the cord. Such cases naturally lead one to be rather optimistic in regard to the mild cases. The fact that there was spinal deformity meant nothing, for, in Pott's disease of the spine there was often very marked deformity without any spinal cord symptoms. If the symptoms presented in a given case pointed to the total transverse lesion of the cord there was nothing to be done but operate, and even this gave a forlorn prognosis. In the milder cases the operation should be undertaken as soon as possible, as here the prognosis was much better. He would operate in any cases, no matter how hopeless it seemed, because nothing else could be done, and the patient was no worse off than before. In the milder cases it was our duty to operate.

Dr. B. Sachs said that the question arising regarding operative interference in these cases was similar to the question of surgical interference in Pott's disease or in cases of tumor. The answer to this question must depend very largely upon the stage. He could not agree with Dr. Hammond that operation should be done because, to say the least, the person would be no worse. It was still the fashion to delay surgical interference until everything else had been tried, whereas if surgical interference was to do any good it should be practised at once. In cases of fracture of the spine, therefore, whether complete or incomplete, operative interference at the earliest stage could do no harm and might be productive of a great deal of good. The differential diagnosis between complete and incomplete crush was difficult. When the crush was complete the reflexes were almost invariably absent, whereas if there was more or less maintenance of conduction through the cord the reflexes were apt to be impaired or exaggerated according to the site of the lesion. The dissociation of sensation was, in his opinion, an exceedingly valuable symptom, as it pointed out the rather moderate involvement of the cord. He was inclined to think that it was often a root symptom and not an indication of absolute involvement of the cord itself.

Dr. J. Arthur Booth said that his experience had been limited, but he had not seen any great benefit from operation, although it should be said that operative interference had been resorted to at a late stage. It seemed rational to treat fractures of the vertebræ on the same general surgical principles as fractures in other parts of the body. In two of his cases the complete paraplegia existing prior to operation had remained unaffected, though there had been some diminution of anesthesia and improvement in the condition of the bladder.

Dr. Joseph Fraenkel referred to a case at the Montefiore Hospital of fracture of the spine. The patient had been admitted a year and a

half after the accident, and had been walking around since the injury. Although the operation had been done late, it was worthy of note that three years and a half after the injury the autopsy showed that the cord had not been entirely destroyed. About six years ago he had presented to this Society a paper on the differential diagnosis between complete and partial destruction of the cord. In four cases in which the reflexes had been lost the autopsy had shown complete destruction in only one of the cases. That shock alone was sufficient to destroy the reflexes was an old physiological dogma. He wished to insist that it was important to note the condition of the deep and superficial reflexes, because for the maintenance of the deep reflexes it was necessary that the cord be intact, whereas this was not requisite for the superficial reflexes. The plantar reflex was the one that was not destroyed.

Dr. George E. Brewer said that there was a greater inclination in Boston than in New York for operating upon these cases. He had personally passed through various stages of opinion regarding operating on these cases. At first he had been influenced by those around him in Boston. The general rule had been when there was paralysis below the point of injury and involvement of the sphincters to do an exploratory operation. He could not recall a single one of these cases that had been benefited by the operation, though he felt that they had all been examples of complete crush of the cord. In New York City the surgeons had been perhaps a little too conservative. Injury in these cases is either a crushing one or there is a hemorrhage within or without the cord; hence the outlook from operation was not good. The cases of hematomyelia recover without operation; cases of severe crushing injury, even with operation, do not. This seemed to be the prevailing view here at the present time. Possibly some of the early successes were in cases of unrecognized hematomyelia in which, of course, recovery would have taken place entirely independently of the operation. Last winter he had seen a girl with injury of the last lumbar vertebra. There was a sensory paralysis and complete loss of control of the bladder and rectum. Dr. Hammond had examined the case and, believing that there was no transverse lesion, had urged operation. The speaker had performed laminectomy and had found only a small spicule of the bone. The patient had recovered from the operation and at the end of six weeks had regained control of the bladder and rectum. When seen two or three months after operation she had almost completely recovered. Had it not been for the advice of Dr. Hammond he would have looked upon this case as an improper one for operation. It had been his practice to introduce in these cases a very small rubber drain.

Dr. A. C. Brush of Brooklyn said that he had seen quite a number of these cases. In the past six months he had had several X-ray photographs made, and they had been so variously interpreted by those who had seen them that they had ceased to have any value. A case was mentioned in which great improvement had followed the removal of a spicule of bone in a man brought into the Kings County Hospital after a fall. A diagnosis had been made of fracture of the arch. An immediate operation had been done and the arch found to be broken down, but this was not pressing upon the cord, but a fragment of the tenth dorsal vertebra. This case had impressed him with the value of operative interference as a means of diagnosis.

Dr. Joseph Collins said that he had only seen a few cases of fracture of the spine, and these at a remote date from the injury. The future of spinal surgery for broken back, he affirmed, lay entirely in the hands of the neurologists—in other words, upon the diagnosis. This had been clearly brought out in the cases cited by some of the speakers this evening.

Dr. Walton, in closing, said that the statement made by Dr. Dana regarding the symptomatology of complete crush of the cord seemed to impeach the observations of a number of trustworthy observers. Regarding late operations he would say that if the pressure had been removed there was no use in operating, and if the pressure had existed for many months there was little prospect of doing any good by operating. Theoretically the late operation would be useful in cases in which symptoms arose from the formation of callus on the inside of the laminæ, and the pressure on the cord, but his personal experience did not include any case of this kind. Instead of picking out an occasional case for operation he would advise picking out an occasional case in which an operation should not be done—in other words, a case which was in great shock and practically moribund.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, Held October 14, 1901.

THE Vice-President, William McCollom, M.D., in the chair.

The Repression of Quackery.—On the recommendation of the Executive Council the Chair was authorized to appoint a committee of five to submit a plan of action for the repression of quackery in the State of New York to be recommended by the Association to other medical societies.

Cholelithiasis and Its Treatment, Medical and Surgical.—This discussion was opened by Dr. William H. Thomson, who spoke of the value of contrasts, as strikingly shown in calculus of the gall-bladder and calculus of the urinary bladder. Both present very similar indications for surgical relief, but with this statement all resemblance ceases. Why does it cease? In the first place, biliary calculi may present absolutely no symptoms during life; whereas calculi in the bladder nearly always give rise to symptoms.

It is estimated that at least 10 per cent. of all males over the age of forty have gall-stones which give no signs of their presence during life; while in women of fifty and over the percentage is as high as 25.

In the case of urinary calculus the diagnosis is a very easy matter. We can apply tests to the urine, we can see the stone by means of the cystoscope, and can feel it with the sound. But we have no means of seeing or feeling gall-stones or even of getting a specimen of bile. These contrasts, however, are by no means as great as those regarding the manner in which these respective concretions come into existence.

The Formation of Gall-stones.—Very important progress has of late been made in our knowledge on this point. We now know that a gall-stone has nothing to do with a general constitutional state. Hence, in this connection, there is no such thing as a uric-acid diathesis, a phosphatic diathesis, etc. Instead, gall-stones are purely local in origin. They do not come from the liver cells and do not result from a fault in the secretion of bile. They originate lower down, just as gonorrhea is not a disease of the kidney. This recent knowledge is a great gain and it enables us to dispense with a great many of the supposed remedial measures that were in use twenty-five years ago. For it we are principally indebted to Naunyn, of Strasburg. The bile, as secreted in the liver, is very watery and has very little *vis a tergo*. In amount it is about equal to the urine, from two to three pints a day. When most rapidly secreted, during the active periods of digestion, it passes into the intestines, being propelled by the pressure of the diaphragm and the abdominal muscles and by the intestinal peristalsis. The mouth of the common duct has a sphincter and when active digestion ceases the sphincter is closed. During the night and other intervals of digestion the bile flows back into the reservoir provided for it—the gall-bladder. In the constitution of bile the main inorganic ingredient is lime (calcium). It is normally in solution and it would remain so but for its tendency, under certain conditions, to combine with another ingredient, namely, the red coloring-matter of the bile, thus forming a precipitate of calcium and bilirubin. Layer upon layer of cholesterin is deposited and sometimes the formation of gall-stones is very rapid. This cholesterin, to which the bulk is mainly due, forms with great rapidity around a stone already impacted in the duct. As to what causes the original precipitation from the bile of the calcium and bilirubin, and as to what causes the further accretions of cholesterin, this is always due to a local catarrh of the mucous membrane of the biliary passages. Cholesterin is a substance widely distributed throughout the body, and especially in the nervous system. Yet it is most commonly produced by the degeneration of epithelial cells, and hence is always found in pus. It is not, therefore, a normal ingredient of the bile, except in very small quantity, and then derived from the epithelium of the gall-bladder. This explains the clinical fact of the great preponderance of cholelithiasis in women. A very important factor in its production is simple stasis or stagnation of bile, and this condition is not difficult to understand when we reflect upon the common inactivity of the muscles of respiration, and add to this relaxation of the abdominal walls, frequently accompanied with ptosis. The most important factor of all remains to be noted. There is not simply a catarrhal condition, but always an infection by micro-organisms, which travel up from the intestines. In at least three-quarters of the cases the particular micro-organism is the bacillus coli; but in some instances we have streptococci, staphylococci, typhoid bacilli, and other germs. Hence, as we see, it is a purely local affair. As to biliary stasis, this is largely due to the habits of the patient, and chronic constipation is one of its chief causes.

Diagnostic Symptoms.—In the first place, jaundice is present in from 50 to 60 per cent. of cases of biliary colic; but so long as the concretion has been caught in the cystic duct no jaundice will result. If there is no jaundice we ought to have the urine tested for biliary pigment, a mere trace of which will throw light on the diagnosis. Secondly, signs in connection with other symptoms of cholelithiasis. There is very little doubt that such signs are due to toxins, and they in every way resemble those in urinary fever, which we now know are caused by the colon bacillus. In the next place it is worthy of consideration that we may have a virulent inflammation of the gall-bladder, sufficient to produce hepatic abscess, and yet find no symptoms of biliary colic. In every case where there is any reason to suspect such a condition the urine should be examined for leucocytosis.

Treatment.—Have we any means, aside from surgical interference, of dealing with gall-stones more satisfactorily than in former days? Dr. Thomson said he thought we had, in the great majority of cases, until the calculus is tightly impacted in the ducts and even after that in a great many instances. To Plimpton, of London, we are indebted for our knowledge of the solubility of biliary calculi in oils of various kinds, such as sweet oil, almond oil, and petroleum oil; which act first on the cholesterin. This, said the speaker, was no longer a matter of hypothesis with him. He was in the habit of relying on olive oil, and he had a special way of giving it. For ten nights in succession the patient takes from one to two ounces in hot milk. Then the oil is omitted for a week, and this course is kept up for a number of months. Oil exerts a special action on mucous membranes in general, and here it has the direct effect of increasing the watery secretion of bile. He said he had from 50 to 80 recorded cases in which this treatment was successful. In addition to the treatment of the gall-stones themselves, we have to deal with the conditions which tend to cause intestinal catarrh, and for this purpose there is nothing so efficient as benzoate of

soda. Next in efficacy comes salicylate of soda, and he is in the habit of prescribing ten grains of each of these three times a day after meals. Hoffman's anodyne and chloroform, which have been so long in use in cholelithiasis, also have some solvent action.

Medical Treatment of Acute Attack and Management of Chronic Gall-stone Disease.—Dr. Leonard Weber said that in the treatment of cholelithiasis physicians always could, and can, do a great deal for the relief and cure of their patients, but vastly more can now be done to save life in cases not amenable to medical treatment, since surgeons, following in the path opened to them by Langenbuch, have known how to incise the gall-bladder and clear of gall-stones that viscus as well as the ducts. For an acute attack of biliary colic are required a hypodermic injection of morphine, a hot poultice over the upper abdomen, and a large enema; followed, when nausea and vomiting have ceased, by calomel or compound cathartic pills. For some years he has been in the habit of following up an acute attack for a week or more by enemata of from four to eight ounces of warm olive oil, carried high up in the rectum by a long tube, to be retained over night and followed by copious flushing of the colon with warm water. The patient is then placed upon a proper diet. Gall-stones being composed not only of cholesterin, but also of lime and magnesia, which increase their hardness, all food rich in these substances, and particularly peas, beans and lentils, must be prohibited, and very hearty meals of any kind should be avoided. Alcoholic beverages should be partaken of very sparingly, and the bowels kept extremely regular by sulphate of magnesia, phosphate of soda, or a rhubarb-and-aloes pill. In addition, the patient should take twice a day half a pint of hot Carlsbad Schlossbrunnen or a teaspoonful of Carlsbad Sprudel salts in half a pint of hot water. As to massage of the gall-bladder, recommended by some, Dr. Weber said that a glance at the anatomy and situation of the viscus and the ducts ought to suffice to stigmatize any such procedure as injudicious and fraught with mischief. He described five classes of chronic cases which had come under his observation. The first was as follows: Cases of solitary or a few large calculi in the gall-bladder, without enlargement of the latter and without icterus, but accompanied by approaching cachexia and steadily failing health. The diagnosis is very difficult and medical treatment of no avail. In conclusion he said he was by no means of the opinion that, after the surgeon has operated and the patient made a good recovery, everything needful has been done. The gall-bladder, when not excised, is certainly not normal, nor is the bile the physiological liquid it ought to be. What holds good in the medical treatment for chronic cases without operation will hold good for those which have been operated upon.

The Domain of Medical Treatment Circumscribed.—Dr. Herbert F. Williams said that the domain of medical treatment becomes circumscribed after the development of the true cholelithitic condition, that is, after the formation of calculi. The true and efficient field for medical therapeutics is that in which we seek to combat the various conditions which culminate in such formation. Where calculi, after having become impacted in the common duct, have escaped into the duodenum, the forced dilatation of the duct seems to prepare the individual for subsequent formations which will not create the disturbance of the initial attack. Of course, all measures of treatment are primarily directed to the removal of the concretions, wherever located, and, fortunately, the increasing caliber of the branches of the hepatic duct is a constant equation in preventing permanent arrest in that duct or the longer radicles. Sooner or later concretions find their way into the gall-bladder, where they may either remain undetected and innocuous, or accumulation or concentric enlargement, together with infection through the common duct, may give rise to irritation, ulceration and perforation. When obstruction is not complete we can accomplish something by hepatic elimination, solvents and hepatic massage. Indeed, the most effective hepatic massage is the reflex and frequently violent vomiting concurrent with hepatic colic. As to measures to assist in expulsion of calculi (which expulsion, even if by surgical means, develops the opportunity for subsequent medical treatment), anodynes, whether given by mouth, inhalation, or hypodermically, not only relieve pain, but produce a relaxation of the walls of the duct; and in this way facilitate the removal of the obstructing mass. The greatest caution, however, is necessary in the administration of anodynes, lest after the attack is over alarming or fatal narcosis may result. Counter-irritation by means of a blister over the seat of obstruction will relieve the recent congestion, thus gaining a little in the lumen of the canal. We can now gently stimulate the biliary secretion, and one of the best agents for this purpose is blue flag (iris versicolor). In conclusion Dr. Williams spoke of the necessity of diet regulation and the exhibition of alkaline waters or their salts, among which sodium phosphate stood preëminent.

Indications for Surgical Interference.—Dr. A. A. Berg, in speaking on this topic, said that as long as there is no febrile complication present, surgical interference is rarely called for. When there is fever we know that a virulent organism has been introduced, setting up a violent cholecystitis. When the acute condition subsides into a chronic one the bacteria remain, and, as a result, we are likely to have contracted gall-bladder, strictures of the ducts, hepatic abscess, peritoneal adhesions, etc. Usually these patients pass into a chronic septic condition, and if handed over to the surgeon make very poor subjects; sometimes collapsing on the table. The time for operation is not during a first attack, but in the succeeding interval, when the patient's vitality is still unimpaired.

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SPECIAL ARTICLE.

THE MAKING OF A MODERN MEDICAL SCHOOL: A SKETCH OF RUSH MEDICAL COLLEGE.

BY JOHN EDWIN RHODES, A.M., M.D.,

OF CHICAGO;

HISTORIAN AND ASSOCIATE PROFESSOR IN DISEASES OF THE CHEST, THROAT, AND NOSE, RUSH MEDICAL COLLEGE.

"WE believe the school we this day open is destined to rank among the permanent institutions of the State. It will pass in time into other and better hands; it will live on, identified with the interests of a great and prosperous city." With these prophetic words did Daniel Brainard, the founder of the college, close his introductory address at its first session, December 4, 1843.[1]

With a population in Chicago of less than eight thousand, but with a vast outlying territory of small but rapidly growing communities, where the physician was needed, but where remuneration for services was small, the hour was ripe for just such an institution as Rush in its infancy; the seed had been planted, the growth was to develop in the coming years.

The times demanded little then. The first session was of but sixteen weeks' duration, no preliminary requirements were expected save that the candidate should be twenty-one years old and of good moral character. For graduation there were required two years' attendance upon lectures (two years of practice were accepted in lieu of one course), largely repeated from year to year, three years' study with a reputable physician, and the presentation of a thesis on some medical subject. A faculty of four delivered the first course of lectures; James V. Z. Blaney being the Professor of Chemistry and Materia Medica; John McLean of Jackson, Michigan, the Professor of Theory and Practice of Medicine; M. L. Knapp of Waynesville, Illinois, Professor of Obstetrics and Diseases of Women and Children, Dr. Brainard heading the list as Professor of Anatomy and Surgery.

Dr. Brainard from the day of his arrival in the city of Chicago in the fall of 1836, until his death, October 10, 1866, occupied an exalted position in this western country. Coming from a family of educated people, he was afforded the best education that the times could supply, and having received a good common school and academic training, he at once began his medical studies and developed a studious habit thus early in his career. Two years with a preceptor in Whitesboro, N. Y., a year at a medical college in New York City, and another year in Jefferson Medical College in 1834 completed his preparation. Then teaching for two years, Latin and French were acquired in his leisure hours. Two years in Paris in 1839 and 1840 added greatly to his knowledge from the advantages for study and observation there afforded. A course of lectures on anatomy was delivered at the University of St. Louis, to the chair of which he was elected in 1842. From the time of the opening of Rush College until his death he served it with pre-eminent ability. He was noted for his eloquence in the lecture-room and on the platform, and was distinguished as an operator and original investigator. His experimental work on the use of iodine in surgery and on bone repair made him famous He received deserved recognition during his lifetime, and, while easily the most commanding figure in medicine and surgery in this great northwest, he should be classed among the most eminent men of his time in American medical history.

The line of succession as presidents of the college following his death includes the names of James V. Z. Blaney from 1866 to 1871, and Joseph W. Freer, 1871 to 1877. Dr. Freer was a graduate of the college in 1849, and almost immediately began medical teaching, devoting the remaining years of his life to the teaching of physiology, surgical pathology and histology. He was a man of fine character and quick perception. Dignified and undemonstrative, he was a superior teacher who left his impress upon students as one who knew, and had the faculty of imparting to others that knowledge.

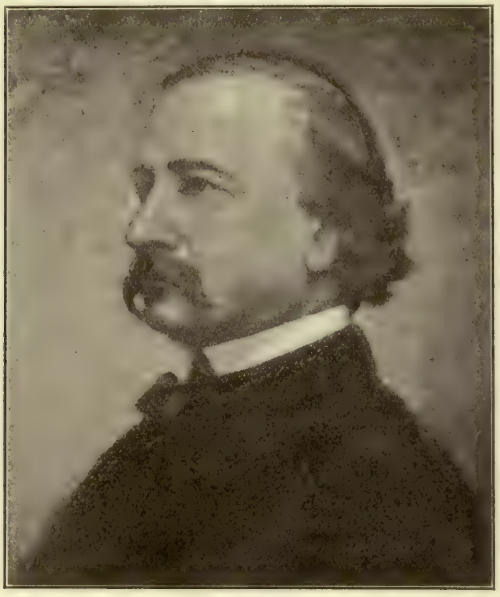
Following in the line of seniority in the faculty, Jonathan Adams Allen became president in 1877 and continued in that office until his death in 1890. In the days, not long since closed, when medicine was taught in our colleges largely by lectures, Dr. Allen will be remembered as a unique character, and one who fulfilled in large degree the requirements of such a position. With a mind well stored from ancient and modern literature, with an overflowing fund of anecdote, a ready wit and a fine command of language, he taught the truths of medicine in such forceful terms that in many a perplexing situation his students recalled the epigram and its lesson to the saving of the situation and their own reputations as physicians.

Edward L. Holmes, who had been a teacher in the college since 1870, next assumed the presidency, being chosen from seniority in the faculty, and occupying that position from 1890 until the affiliation with the University of Chicago, when the office was abolished. Closely identified with the college for a period of thirty years, with hopefulness and patience he advocated the higher

[1] The charter was granted by the Legislature of the State of Illinois in 1837, and was the first granted to an educational institution in the State.

education in medicine, hailing with satisfaction every forward step in the college, devoted to its interests with singleness of heart and with an unyielding purpose that it should stand for the best. Many of his ideals have been realized.

None of the men who were identified with the college during these eventful years deserved greater praise than Ephraim Ingals who



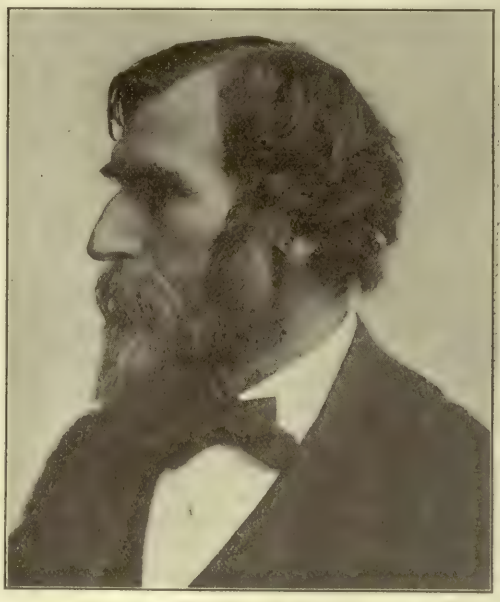
Daniel Brainard, M.D.

quietly passed away, Dec. 18, 1900, secure in the belief that his life's work was ended, and that he had earned the restfulness of the long sleep. A student of Dr. Brainard, graduated from the college in 1847, he became a professor of materia medica in 1859. In days of disaster he never faltered, in days of prosperity he longed for higher achievements. When Dr. Brainard died, and ruin seemed to menace like a grim specter the future of Rush College, he was one whose faith was sublime in the ultimate success of their efforts. He lived to see the high accomplishments of these late years.

Wm. H. Byford who was called to the professorship in obstetrics and diseases of women and children in 1859, and subsequently, in 1879, to the chair of gynecology, remaining thereafter on the faculty until his death May 20, 1890, was a grand man. Without early advantages in education, he was one of those men of sterling worth whose careers are carved out by individual effort, favored perhaps by the stress and circumstance of poverty and limited opportunities. A man of vigorous intellect, courtliness of manner, of gentle and kindly nature, he endeared himself to all. One of the fathers of gynecology he helped to place it on a plane of high excellence as a specialty. He was founder of the Woman's Medical College of Chicago, and president of its faculty and board of trustees till his death. His first contribution to medical literature in 1847 was a report of two Cæsarian sections performed by himself. He wrote the first book issued by a Chicago medical author, in 1864, a Treatise on Chronic Inflammations and Displacements of the Unimpregnated Uterus. His early advocacy of the use of ergot in the treatment of fibroids, in 1872, attracted wide attention. Many other contributions to the literature of medicine gave him rank among the best of those devoted to the treatment of diseases of women.

Another of the men who came to the college in her early history, and who had much to do with her name and fame was DeLaskie Miller, known and loved by every alumnus who listened to him from 1859 to 1889—thirty years of continuous service as her professor of obstetrics and diseases of women and children. He was eminently fitted for teaching, and his refinement of manner, courteous treatment of his pupils and delightful personality endeared him especially to his students to whom his lectures were ever a source of sincere pleasure and profit. Though retired from participation in the teaching of medicine, he still lives at the age of eighty-three years, actively devoted to the interests of the school, as president of her board of trustees.

It would be interesting to note the faculty changes from year to year necessitated by the gradual enlargement of the scope of medical teaching; so too would be of interest the mention of the many self-sacrificing, earnest and



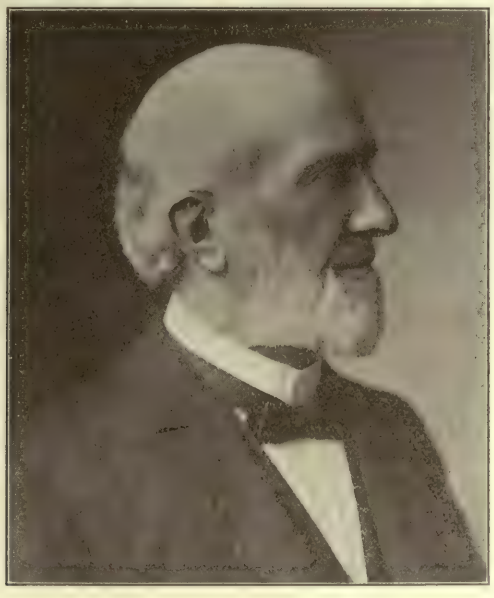
Edward L. Holmes, M.D.

faithful men who have made the college what it is to-day, and have counted no sacrifice too great for the growing demands for better facilities and higher learning in medical education, but the limitation of this article will not permit it.

In a little wooden building of two stories, now 49 Clark Street, was the office of Dr. Brainard,

and at the rear of the building was a little shed attached. This was the first Rush Medical College building. In the shed dissecting was carried on, and in the building twenty-two students sat upon rude benches to listen to the lectures of the four professors for the sixteen required weeks, and at the end of the session one man from the class received the first diploma of the college in course, two practitioners receiving at the same time the honorary degree of M.D.

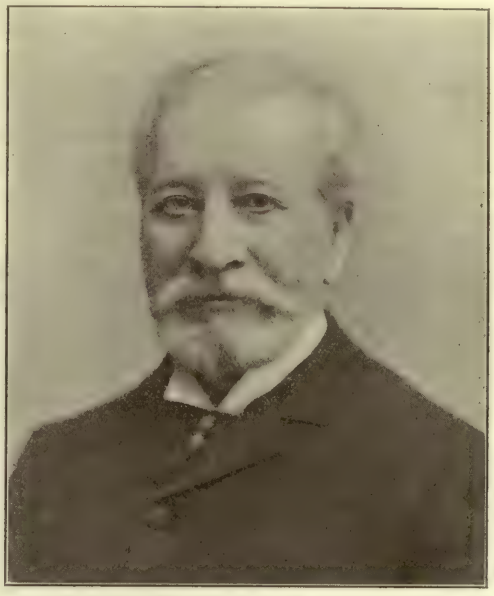
Following the first commencement there was erected in the summer of 1844, at the southeast corner of Indiana and Dearborn Streets, a one-story wooden structure at a cost of $3,500. In this building was an amphitheater, dissecting-room, and a chemical laboratory. The first course in chemistry had been theoretical only, owing to the lack of laboratory facilities Forty-six students attended this course, and at the end of the year there were eleven graduates. For eleven years this structure proved fully adequate to the requirements of the college. In this building Austin Flint, whose name and fame became familiar in later years to every medical man in the country, and whom the world delighted to honor, gave a course of lectures on the Institutes and Practice of Medicine. In 1855 it was found necessary to rebuild and enlarge the building; this was done at an expense of about $15,000. This structure provided well for two hundred and fifty students. The bonds



Ephraim Ingals, M.D.

which were issued to provide the necessary means were largely taken by members of the faculty. Twelve years later (1867) the corner-stone of another addition to the college building was laid, and it was soon completed. In this building were two amphitheaters, one above the other, the upper one seating six hundred and twenty students. Adequate provisions were also made for dissecting and chemistry, but the main feature was this amphitheater to provide for lectures to large classes, the entire matriculated body listening to them from the beginning of their course.

In 1871 came the appalling disaster to our city. The usual course had begun under favorable conditions when, on the night of October



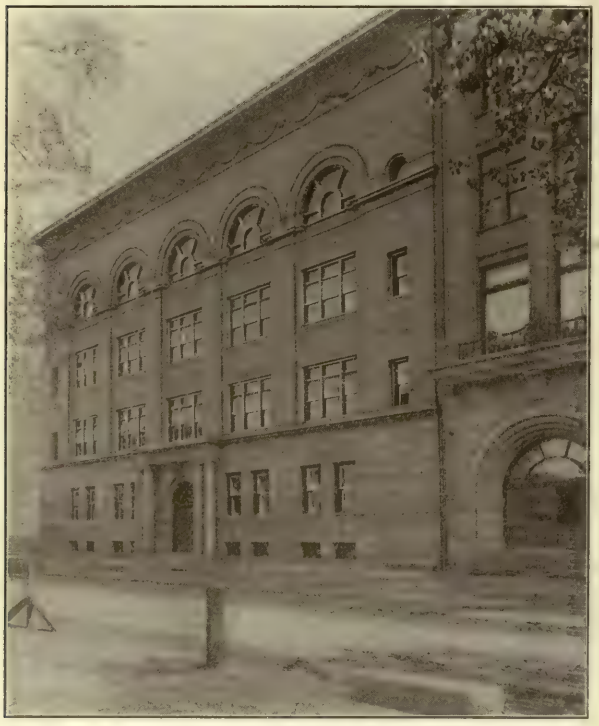
De Laskie Miller, M.D.

9th, the fire-fiend swept like a besom of destruction over the city, and in a few hours the college property was a smoking mass of ruins—a vacant lot, heavily mortgaged, was all that was left; the personal property was swept away; students and faculty were scattered, many of them deprived of homes and property. The situation was desperate, but with the incomparable courage which was demonstrated in every department of life and industry at that time, the classes were called together in a few days, lectures were resumed in the amphitheater of the Cook County Hospital, and dissecting was carried on in rooms kindly provided by the Chicago Medical College. Fortunately rare opportunities were thus afforded the classes for clinical instruction in this use of the Hospital.

Realizing the advantages to be derived from the vast clinical material that the future would offer at the County Hospital, the time seemed opportune for locating in close proximity to that institution. The old hospital building was fast becoming inadequate to the demands of the public and, until a new site was selected, it was deemed good policy to be contented with temporary quarters. Therefore the famous college "under the sidewalk" was supplied. It was a poor and mean structure, of unplastered brick, largely below the street level, but it contained an amphitheater and a chemical laboratory and a dissecting-room. The writer, then a college-stu-

dent, remembers distinctly the impression made by the immaculate Prof. Gunn, before the days of antisepsis, as he appeared in the arena in this building in Prince Albert coat, light trousers, polished shoes and linen to match, as if dressed for an afternoon reception, performing his brilliant operations before a class of eager spectators, with results, too, that could afford little room for criticism of methods. He was not only a great surgeon but a teacher of rare excellence.

The present permanent location was selected diagonally opposite the site of the new County Hospital. Here in 1875 and 1876 was built the structure substantially as it is to-day. The cost of the lot and ground, $75,000, was subscribed by the faculty almost entirely, bonds being furnished for such subscriptions. Prof. Allen delivered the address, and also that at the opening



Laboratory Building.

of the college in the new building at the beginning of the following year.

With the development of the laboratory idea in the teaching of the science of medicine came demands for enlarged laboratory facilities, so that in 1893 on a lot opposite the college structure was erected a five-story building with a frontage of 100 feet to be devoted entirely to laboratory and recitation work. This provided also a large, light room on the top floor, with cemented floors and walls, iron and glass tables, and every modern convenience for anatomical work. During the present year another building (to cost $112,000) is being erected with money given by the faculty. It has been named the Nicholas Senn Hall, in honor of the eminent surgeon and devoted teacher whose generosity made it possible. The building, which is being rapidly pushed to completion, covers a ground space of 40x90 feet, and is seven stories high. The basement and first three floors are to be utilized for a free dispensary, the fourth and fifth floors for clinical laboratories and recitation-rooms, the upper floors for surgical and medical amphitheaters, while the college library will occupy a room fitted to its rapidly increasing equipment on the lower floor of the old building. This much for the evolution of equipment, for the making of a modern medical college.

Possibly a brief sketch of the outgrowth of educational methods can be conveyed in a short résumé of what has been taught in the college, beginning with the faculty of four. In 1843 the essentials were theory and practice of medicine, anatomy and surgery, chemistry and materia medica, obstetrics and diseases of women and children. Who shall say, when the men and the methods of those days are reviewed, that they did not serve well and successfully their day and generation? With the following year came additions to the faculty, the separation of anatomy and surgery, the combination of materia medica and therapeutics, and chemistry and pharmacy were united. In the announcement for 1845 is made, to students of to-day, the rather remarkable statement, in view of the modern equipment of a college, that a noteworthy addition to the apparatus was "a fine microscope of sufficient power to exhibit the blood-globules, spermatic animalculæ, the elementary tissues and pathological structures." Fifty-one surgical cases and operations in a year at that period does not cover a week's exhibit in the college of to-day!

As early as 1847 the college was fortunate in establishing a hospital connection, which, though small, afforded practical clinical instruction to the students.

In 1848 the establishment of a chair of physiology and pathology was announced, which was filled the following year by Prof. N. S. Davis, Sr., the "Nestor of the American Medical Association." The desirability of an extension of the course of instruction which had been given in two sessions of sixteen weeks each was becoming apparent, and a spring course of lectures of eight weeks was then given, and in the courses offered was one on auscultation and percussion by Prof. Brainard. In 1850 the hospital facilities were enlarged by utilization of the clinical material at the United States Marine Hospital, which was in the immediate neighborhood, and to whose wards the students were admitted. For the first time there was made an additional requirement for graduation, namely, "a hospital attendance of at least one term." In 1855 we find provision made for medical jurisprudence, and for comparative anatomy. The time had not fully come in 1848 for an extension of the period of study in the medical college and the spring course had been abandoned, but in 1859 the work was revived and an extra session was

again undertaken as a spring course. At this time, too, a growing difference of opinion as to the desirability of grading the courses of study came to a climax, resulting in the resignations of several members of the faculty and the establishment of another medical school in Chicago with this idea dominant. It was then, too, that Prof. Allen was called from Michigan—"Uncle Allen," the affectionate sobriquet of students in after years. There was then organized what was termed the "Preparatory School of Medicine," and the department then and later was manned by many of the younger teachers whose influence in the development of medical teaching has been and is forcefully exerted in the advancement of the present day. It was the initiative of an extended course for attendants and ear was added to the curriculum and later, in 1866, clinics at the County Hospital were announced and postmortems before the class, and in addition daily clinics at the United States Marine Hospital in surgery and diseases of the chest, and two years later a chair of clinical medicine and diseases of the chest was established. In 1868 Dr. Charles T. Parkes, a recent graduate, assumed the position of demonstrator of anatomy. For twenty-three years, until his untimely death, his service as demonstrator and professor of anatomy and professor of surgery was marked by an enthusiasm and faithfulness that left its lasting impress upon the college.

The graduating thesis, a time-honored custom in the medical school, was omitted from 1868.

Rush Medical College and Presbyterian Hospital.

of the regular session, which continued without interruption until the extension of the regular winter course in 1893 to eight months. The optional spring course, beginning with an attendance of about twenty, grew to have about two hundred and fifty before it was discontinued.

The War of the Rebellion came and with it another special field of study, military surgery, which was offered in a preliminary course by Prof. Brainard. We find also the subject of toxicology, the presentation of the surgical anatomy of special regions, and comparative anatomy of the digestive organs, added to the curriculum.

The hospital work at this time was also interrupted by the War, the City hospital being utilized by the government as an eye and ear hospital; at the close of the War the institution passed into the hands of the County.

In 1863 the subject of the diseases of the eye

There had been during these years, a gradual development in the segregation of different subjects, so we find provision made in 1872 and soon afterward for the following subjects in the spring course: principles and practice of medicine; materia medica and therapeutics; anatomy, chemistry, physiology and histology, obstetrics, toxicology and medical jurisprudence, pathology, microscopic anatomy, and the use of the microscope (for many years, however, this subject received but perfunctory attention), diseases of the eye and ear, diseases of the brain and nervous system, diseases of women and children, dermatology and syphilis, and diseases of the chest and physical diagnosis. Thus, for many years, the spring course, furnished, at the hands of young and selected men a résumé of the entire subject of medicine as then taught. A *concours* was held for the selection of teachers for this

course. Each candidate was required to appear on a certain evening in the presence of the faculty and students and lecture for at least twenty minutes on some topic selected either by himself, or by lot. The selection from merit as a lecturer well illustrates the importance attached to facility as a public speaker at this period in medical teaching. The candidates who delivered the best lectures were selected in this *concours*. From these men, in the spring courses, there were constant promotions to the regular staff, and while the course was entirely separate from that given in the winter the selection of it by a large number of the students from year to year was evidence of the necessity that would in time lengthen the regular winter course.

The clinical work had, except in the department of surgery, up to 1877, been done in the dispensary and in the hospitals open to the college students. At that time there were instituted in the college building clinics on diseases of the nervous system; on diseases of the heart and lungs, and medicine; and soon after on skin and venereal diseases. Since that day these clinics, added to and with some changes, have been maintained weekly throughout the year, this method of teaching having met the demand for more practical work. Soon were added clinics in diseases of children, gynecology, diseases of the eye and ear, and in 1884 a clinic on the then new specialty of diseases of the throat and nose. The surgical clinics, also, about this time, were increased to two a week and in 1890 to three a week. These clinics were supplied with ample material for many years from the Free Dispensary connected with the college.

In 1883, on a lot adjacent to the college building, the college began the erection of a hospital with a single contribution by a relative of Prof. Ross, and others by members of the faculty. After $25,000 had been expended, it was deeded to an association in the interest of the Presbyterian denomination, and from it has grown the great Presbyterian Hospital, by agreement attended largely by the faculty of the college. Since its addition to the clinical facilities there have been maintained surgical and gynecological clinics that would vie with the largest in the world in the wealth and variety of material offered, and the contributions to the other clinics have been of increasing value. In obstetrics it affords the students personal contact with cases.

We have now come down to the later years when changes have come with startling rapidity. We can do no better than to speak briefly of several important ones of recent date, and the present position of the college, as an example of a "modern medical school."

Recognizing as early as 1874 the value of a university alliance, the full fruition of the hopes of the faculty of the college in this particular were not realized until 1898 when Rush became affiliated with the University of Chicago. As a preliminary to this connection, the college, having a debt of $71,000, took immediate steps to pay it; $25,000 was given by Dr. E. Ingals and $25,000 by Dr. N. Senn, the remainder being contributed by various other members of the faculty, and the entire equipment was turned over to a new board of trustees, none of whom were connected with the teaching force of the college.

In reviewing the history of Rush College thus far it will be seen that the laity has contributed almost nothing to the education of its physicians in this college, although money without stint has been given to general educational institutions, and many other special ones, and to the founding and maintenance of hospitals. What is true of Rush is true of most other medical schools in America. In other words, the wealthy who demand for themselves the highest skill in their physicians have not in the West, and not until recently in the East, contributed of their affluence to make them so. Why should not medicine now be the recipient of the bounty of those who desire to benefit mankind, to whom as a profession it is singularly and unselfishly devoted?

Not only was this entire equipment given by the faculty, but it entered upon a campaign of distinct advance in every line in medical education, which necessarily greatly increased the cost of instruction.

The Quarterly System.—In December, 1898, the faculty committed itself to the quarterly system, that is, the division of the academic year into quarters, instruction being given throughout the year. This permitted the entrance of students at the beginning of any quarter and graduation at the end of any quarter when all requirements have been fulfilled. Attendance is required before graduation on twelve quarters, and at least forty-five months must elapse between the date of matriculation and the date of graduation. Instruction in all departments continues throughout each quarter, or in special cases, for a single term, that is, half of a quarter.

The experience of two years has amply demonstrated the wisdom of this arrangement for the following reasons: The expensive equipment is in use throughout the year; a student may begin the study of medicine at the opening of any quarter; special course students may avail themselves of the summer quarter, this season appealing strongly to practitioners of medicine, and many find it advantageous to continue their medical studies throughout the year; others who are paying their own way often find employment more readily during the fall or winter sessions; clinical material is usually abundant in the summer quarter; it favors the concentration of courses, as it has been found much more conducive to the mastery of a subject to have it presented frequently over a short period of time, rather than but once or twice a week throughout the year, as was formerly the custom; and finally, it lends itself admirably to the systematizing and grading of courses. Perhaps one of the most advantageous features of the quarterly sys-

tem is its stimulation of all members of the faculty to do their very best work. By it the younger members, especially the assistant professors and instructors, have quite as good an opportunity to demonstrate their teaching qualities as the older professors, thus inciting to the best work in every department.

The Elective System.—Another advanced step was taken July 1, 1899, namely, a number of courses in the junior and senior years were made elective, the student being allowed to select from the list of elective courses a number, including both required and elective studies sufficient to insure him credit for about twelve majors a year.[1]

All the courses now offered in the junior and senior years are elective. Practical experience has already demonstrated that a student can, under certain restrictions, better average his work and follow out special inclinations adapted to his tastes, abilities, and needs under this system. A new spirit has seemed to prevail in the faculty and there is found an infectious emulation prevalent which means that it is understood that good work counts and subjects poorly taught are likely to be neglected by a discriminating student body. With the spirit of reform in medical instruction, has come in this school a rapid advance in preliminary requirements, so that preparation for admission must now cover a period of four years in a secondary school (high school or academy) of high grade, from which specific credits are exacted in each subject. For the sessions of 1902-3 and 1903-4 the student must present a certificate of admission to the sophomore class in an institution of equal rank with the University of Chicago. For the session 1904-5 a student must be prepared to enter the junior class.

Transfer of the Freshman and Sophomore Classes to the University.—In utilizing its University connection a radical step has just been taken in the separation of what may be termed the purely scientific or preclinical from the practical or applied scientific study of medicine. The art of medicine, it is hoped, may in the near future be better taught by an additional year of work in a hospital before a diploma is awarded. The University, magnificently equipped for the work, offers instruction in the following branches, covering the freshman and sophomore years of the medical college: Anatomy, gross and microscopic; neurology, embryology, physiology, physiological chemistry, inorganic, organic, and analytical chemistry, toxicology, pathology, bacteriology, and pharmacology. These two classes will be taught at the University, while the work of the third and fourth years only will be done entirely at the medical school. With this transference of the work has come the admission of women to the courses of the first two years, following out the established policy of the University in the co-education of the sexes. Ten years' experience has amply demonstrated the wisdom of that policy. Its adoption for the final two years of the medical course has been successful elsewhere; why should it not be, even in a greater degree, in Rush College?

In sketching thus roughly the making of a modern medical college, one can but be astounded, in comparing the school of only half a century ago with the school of to-day, at the remarkable advancement of medicine, especially during the closing decade of the nineteenth century. The fact is evident that the forward march in educational methods everywhere in this country finds in its vanguard the medical profession, now, as ever, unsatisfied with the achievements of the past, pressing still onward and upward in their dedication "to the quest of knowledge that may lessen pain and prolong life."

34 Washington Street.

[1] A major course is defined as a didactic or recitation course, occupying five hours a week for one quarter (a total of sixty hours), or a laboratory, practical, or clinical course occupying ten hours a week for one quarter (a total of one hundred and twenty hours). A minor course is a didactic or recitation course occupying five hours a week for six weeks, or a laboratory course occupying ten hours per week for a similar period.

ORIGINAL ARTICLES.

ON THE NATURE OF THE PROCESS OF FERTILIZATION.[1]

BY WILLIAM J. GIES, M.S., PH.D.,
OF NEW YORK;
INSTRUCTOR OF PHYSIOLOGICAL CHEMISTRY IN COLUMBIA UNIVERSITY.

SINCE the time of Leeuwenhoek and his pupils (1677) it has been known that the fluid secreted by the male generative organs contains spermatozoa. The earlier observers noted the active movement of these innumerable minute bodies in the fresh fluid and assumed them to be parasitic animalcules, "sperm animals." A century later, about 1786, Spallanzani demonstrated that the fertilizing power of the semen is possessed by the spermatozoa and not by the liquid portion, since the semen loses its potency when the spermatozoa are separated from it by filtration. Kölliker, in 1841, proved that the spermatozoa are formed from the cells of the testis and, therefore, are not parasites as the earliest observers had assumed, but, like the ova, are derived directly from the parent-body. In 1865, Schweigger-Seidel and La Valette St. George showed that the spermatozoön, like the ovum, is a peculiarly-modified single cell of extraordinary minuteness, containing a nucleus and cytoplasm, and on the whole morphologically equivalent to other cells. In 1875, O. Hertwig established the fact that normal fertilization of the ovum is brought about by immediate union with but one spermatozoön.

Although Leeuwenhoek had assumed that the spermatozoa must penetrate the ova in order to effect proliferation, nearly two centuries passed before the fusion process was actually observed.

[1] The substance of this paper was given by the author at a recent meeting of the Society of Physiological Chemists, New York City.

It was first described in detail by Fol in 1879. "In every known case an essential phenomenon of fertilization is the union of a sperm-nucleus, of paternal origin, with an egg-nucleus, of maternal origin, to form the primary nucleus of the embryo."

The exact nature of the process which causes proliferation of the fertilized egg is not yet understood. During the past few years important additions to the facts bearing on this question have been made by Loeb, whose well known studies of the mechanics of life phenomena have not only added greatly to our exact knowledge of biological events, but, also, have shown the important influence which the modern physico-chemical theories may have upon our understanding of animal functions.

Loeb had come to the conclusion, as a result of numerous and varied experiments, that "something in the constitution of the sea-water prevented the unfertilized eggs of marine animals from developing parthenogenetically." It had been known for some time that the unfertilized ova of arthropods, echinoderms and worms segment into a few cells (2-4) when left for a comparatively long time in sea-water, but this was generally considered a pathological phenomenon. In his earlier experiments Loeb kept *unfertilized* eggs of a common species of sea-urchin for two hours in sea-water whose osmotic pressure was slightly increased by the addition of various electrolytes. When the eggs were returned to normal sea-water they soon began to segment, and blastulæ, gastrulæ and plutei, which appeared to be normal in every respect, rapidly developed. In brief, the general effect in the production of the embryo was apparently the same as that ordinarily caused by spermatozoa. These same results have been obtained by Loeb with the eggs of other animals and have been verified repeatedly by other observers, including the author.

In one of his first communications of the results of the work just referred to, Loeb says: "From these experiments it follows that the unfertilized egg of the sea-urchin contains all the essential elements for the production of a perfect pluteus. The only reason that prevents the sea-urchin from developing parthenogenetically under normal conditions is the constitution of the sea-water. The latter either lacks the presence of a sufficient amount of the ions that are necessary for the mechanics of cell division (Mg, K, OH or others) or it contains too large a quantity of ions that are unfavorable to this process (Ca, Na or others), or both. All the spermatozoön *needs* to carry into the egg for the process of fertilization are ions to supplement the lack of the one or counteract the effects of the other class of ions in the sea-water or both. The spermatozoön *may*, however, carry in addition a number of enzymes or other material. The ions and not the nucleins in the spermatozoön are essential to the process of fertilization. . . . I consider it possible that only the ions of the blood prevent the parthenogenetic origin of embryos in mammalians and I think it further not impossible that a transitory change in the ions of the blood may also allow complete parthenogenesis in mammalians."

At a somewhat later period in his work on marine animals, Loeb stated: "The spermatozoön not only starts the development of non-parthenogenetic eggs, but it is also the bearer of the hereditary qualities of the male. From our experiments it becomes evident that these two functions of the spermatozoön are not necessarily bound together, for nobody would assume for an instant that the hereditary qualities that are carried by the spermatozoön could be imparted to the egg by a change in the inorganic constituents of the sea-water. We have learned to attribute the different activities of a cell to different enzymes. We must in future consider the possible or probable separation of the fertilizing qualities of the spermatozoön from the transmission of hereditary qualities through the same. . . . The bulk of our protoplasm consists of proteid. . . . The proteids are characterized by two qualities which are of the utmost importance in the analysis of life phenomena. The proteids change their state very easily, and readily take up or lose water. . . . The agencies which affect these two variable qualities of the protoplasm most powerfully are, first of all, certain enzymes. . . . Almost equally powerful are ions in certain concentrations. . . . The third agency is temperature. In our experiments it was evidently the second factor which affected the condition of the colloids." The latter sentence refers, naturally, to the colloids of the ovum.

Subsequent experiments on sea-urchins enabled Loeb to give a more definite answer to the question of the nature of the process of fertilization. He found that an increase in the osmotic pressure of the sea-water through the addition of cane sugar or urea can produce parthenogenesis. *"This proves conclusively,"* says Loeb, *"that the development of the unfertilized egg is produced through an increase in the concentration of the surrounding solution. As it is immaterial whether the increase in the osmotic pressure is brought about by electrolytes or non-conductors, there can be no doubt that the essential feature in this increase in the osmotic pressure of the surrounding solution is a loss of a certain amount of water on the part of the egg.* . . . . A consequence of the loss of water on the part of the egg is an increase in its osmotic pressure. The osmotic pressure inside the egg is furnished chiefly or almost exclusively by electrolytes. It is thus not impossible that the ions in the egg, if their concentration is raised, bring about that change which causes the egg to develop. If we assume that the spermatozoön starts the development of the egg in the same way as in the case of artificial parthenogenesis, it follows that the spermatozoön must possess more salts or a higher osmotic pressure than the eggs. . . . But there is no reason why the

spermatozoön should not bring about the same effects that we produce by reducing the amount of water in the egg, in some different way. . . . It seems as if the liquefaction of the nuclear membrane and other constituents of the nucleus were a prerequisite for cell division." Possibly this liquefaction is accomplished by enzymes.

In his last paper, after many additional experiments on marine fauna, Loeb stated that "the bridge between the phenomena of natural and artificial parthenogenesis is formed by those animals in which physical factors decide whether or not their eggs develop parthenogenetically. In plant lice parthenogenesis is the rule only as long as the temperature is high or the plant has plenty of water. If we lower the temperature or let the plant dry out, sexual reproduction occurs. The drying-out of the plant causes the tissues of the lice to lose water. The same factor, loss of water, makes the artificial parthenogenesis of echinoderms and chætopterus possible. In plant lice the effect is of the same kind, only in the opposite direction."

Further on in the same communication, Loeb adds: "The general opinion concerning the rôle of the spermatozoön in the process of fertilization is that it acts as a *stimulus,* and that as such it starts the development of the egg. . . . If we consider the fact that the eggs show at least a beginning of segmentation under 'normal' conditions, the act of fertilization assumes a different aspect. The spermatozoön can no longer be considered *the cause* or *the stimulus* for the process of development, but merely an agency which *accelerates a process that is able to start without it,* only much more slowly. Substances that accelerate chemical or physical processes which would occur without them are called catalyzers (Ostwald). According to this definition we may assume that the *spermatozoön carries a catalytic substance* into the egg, *which accelerates the process that would start anyhow but much more slowly.* . . . It would be wrong to say that *the K-ions are the stimulus* that causes the developmental process. *They merely act as catalyzers, accelerating a process that would otherwise proceed too slowly.* The loss of water on the part of the egg-cell must have a similar effect, but possibly a less direct one. It may be that the loss of water alters the chemical processes in the egg in such a way as to give rise to the formation of a substance which acts catalytically. . . . The introduction of the catalytic substances which accelerate the processes of development saves the life of the egg. This may be made intelligible on the following assumption. Two kinds of processes are going on in the mature egg after it has left the ovary. The one leads to the formation of substances which kill the egg; the other leads to the formation of substances which allow growth and cell division and are not poisonous. We may use as an illustration Pasteur's well-known experiments on the behavior of yeast cells in the presence and absence of atmospheric oxygen. In the presence of oxygen the yeast cells multiply on a sugar solution, while the zymase effect is comparatively small. In the absence of oxygen the multiplication of cells is limited or may stop, while the zymase effect becomes more prominent. The products of alcoholic fermentation are comparatively harmless for the yeast cell, and for this reason an increase in the fermentative activity of the cell does not cause the death of the yeast. I imagine that matters are similar in the mature egg-cell after it has left the ovary, with this difference, perhaps, that the substances formed (by fermentation?) in the egg-cell are more poisonous for the egg than the alcohol and the other products of fermentation are for the yeast. The process that causes the death of the egg-cell and the one that causes cell division are at least partly antagonistic. They are both inhibited by a low temperature, so that in this case death does not occur, although no cell division is possible. If we succeed in finding a substance which accelerates the process of cell division at the normal temperature, this will at the same time lead to a suppression or a reduction of the antagonistic process that shortens life. In the case of the egg of chætopterus a trace of K-ions acts as such a catalytic substance; possibly a trace of H-ions; and perhaps certain substances that are formed when the egg loses a certain amount of water. For the echinoderm egg we know at present only the last factor. In addition there are the catalytic substances carried or produced by the spermatozoön (ions? enzymes?). But there are certainly other catalytic substances, as is proved by tumors and galls, in which the variety of structures corresponds to an almost equal variety of parasites. We do not need to assume a specific parasite for each kind of tumor. Teratomata may be explained on the basis of the parthenogenetic tendency of the mammalian egg in connection with some chemical change that furnishes the catalytic substance. But it is not impossible that even in benign tumors, such as a teratoma, the catalytic substance may be due to parasitic organisms.] It is very important to realize that the introduction of catalytic substances into the egg does not prolong its life unless the egg has reached a critical point determined by two sets of conditions. The one is the maturity of the egg, the other the change of conditions connected with the egg leaving the ovary. . . . . The fact that there is an age limit for the development of carcinoma may be a similar phenomenon. The catalytic substances which are given off by the cancer parasite may not be able to bring about cell division in the epithelial cells unless the latter have reached a critical point, which is at least partly determined by the age of the individual."

Among the catalytic substances which Loeb has constantly had in mind in his brilliant observations in this connection are enzymes, as has already been indicated. With the advice and many helpful suggestions of Professor Loeb, the writer, working in Prof. Loeb's laboratory at

Wood's Holl, recently attempted to ascertain whether any experimental justification can be found for the assumption that the spermatozoön carries substance into the ovum which effects proliferation by zymolysis.

Pieri appears to have been the first to give this question experimental examination. Several years ago (1897) he reported that he had extracted soluble enzyme from the testicles of two varieties of sea-urchin, which had the power to bring about segmentation of ova of the same varieties. The enzyme, which he called "ovulase," was obtained, he said, by merely shaking the testicles in distilled water or sea-water. As he himself was not sure that all spermatozoa were killed in the extraction process, it seems certain that his results were due not to "ovulase," but to live spermatozoa.

Dubois, in 1900, arrived at the conclusion that natural fertilization comes about through the action of a fecundative ferment. He claims that he was able to separate such a body, "*d' une zymase fecundante,*" from the testicles of a variety of sea-urchin, but, unfortunately, no experiments showing its qualities or method of preparation were detailed by him. Dubois named the ferment (?) "spermase" and credited it with the power of modifying a hypothetical substance pre-existent in the ovum, which he called "ovulose."

Winkler, a little more than a year ago, reported the results of experiments similar to those of Pieri. Great care was taken to destroy the spermatozoa in the extracts and Pieri's work was much improved. The influence of the extracts was practically negative. Sometimes with the same extract the eggs of one individual "reacted," whereas the eggs of another did not. The proliferation never went beyond the 4-cell stage. It is well known that the unfertilized eggs of the sea-urchin are prone to divide into a few cells if they are allowed to remain undisturbed in normal sea-water for about a day—the usual length of Winkler's experiments. Winkler's results are hardly positive enough for the deduction that fecundative enzyme was obtained; they might, in fact, be used to show how unwarranted were Pieri's conclusions.

Shortly after Winkler's paper appeared, Cremer published a very brief note giving a general statement regarding some unfinished experiments by himself and Hofer. They worked with the testicles of trout and used the Hahn-Buchner pressure method for obtaining sperm extract. They found that none of the expressed fluids from the trout spermatozoa possessed any segmental activity on mature trout ova. No description of the experiments nor methods used in testing the extracts were given by these observers in their preliminary note.

Loeb recently made a series of experiments with various non-spermatic enzymes to determine proliferative power on the unfertilized eggs of the sea-urchin, but with negative results. He states that "the only enzyme that caused the egg to segment at all was papain," but he could not be certain that this was not due to some accidental constituent of the sample of the enzyme used. "The other enzymes were absolutely without effect."

Two years ago Mathews, in some unpublished experiments cited by Loeb, tried the effect of rennin (rennet tablets) on unfertilized eggs of the sea-urchin. Segmentation into a comparatively small number of cells resulted. Mathews concluded, however, that the results noted had been produced not by the enzyme, but by the salts in the tablets increasing the concentration of the water.

Up to the time, then, that the author's work was begun it seemed possible that enzyme action might be a causative influence in normal segmentation of the ovum after introduction of spermatozoön, but no definite experimental evidence had been presented to support the theory.

Regarding the writer's work a multitude of details may be passed over and the essential facts regarding methods of procedure, etc., stated in the following brief account:

Because of the ease with which large quantities of the spermatozoa and ova of the common sea-urchin can be obtained, we used the sexual organs of this marine animal, which has furnished the material for many classical studies of cell development. The normal conditions under which fertilization and proliferation of the ova of the sea-urchin occur can be easily maintained in sea-water in the laboratory. Many of the usual methods of enzyme extraction were employed on the testicles. The eggs, always normal and mature, were kept in ordinary sea-water to which various quantities of sperm extract were added. Careful examination of the eggs was made at frequent intervals during twenty-four hours. Concentration of the sea-water was entirely prevented. The results of twenty-eight series of three to thirteen twenty-four-hour experiments were entirely negative—that is, no proliferation resulted and every extract was devoid of segmental power. Control experiments were made with each series, which showed that normal conditions prevailed and that the eggs would have segmented had the extract possessed proliferative power. It was also ascertained in control experiments that the extracts were devoid of toxic property.

The persistently negative results of these experiments, in which the existence of neither an enzyme nor a zymogen could be indicated, gradually led me to believe that possibly an enzyme is formed from material in the egg, or in the sperm, or in both, on contact of the two living elements. If such were really the case it would seem that extracts of the eggs which had been normally fertilized might, under appropriate conditions, possess the power of inducing segmentation of unfertilized ova.

A large number of eggs in sea-water were accordingly treated with a drop of spermatic fluid and allowed to develop in the normal manner to

various stages—in one experiment as far as the blastula stage—when the fluid was separated by decantation, the cell-groups thoroughly ground in a mortar with sand and extracted in several of the usual ways for the isolation of enzymes. None of these extracts had any power of causing fresh mature eggs to segment.

Entirely negative results rarely justify sweeping deductions. Since enzymes are indiffusible, or, at most, are only very slightly diffusible, it is possible that in experiments of the kind conducted by Loeb, Mathews, Winkler, Pieri, Cremer and myself, enzymes which may be contained in the extract does not and cannot enter the substance of the ovum, yet it may be that direct absorption of such enzyme in solution could take place through the micropyle. It may be that sperm enzyme, if such really exists, is as intimately connected with the structural elements of the cell, and as resistant to extraction processes, as Fischer has found the inverting ferment of the mould *Monilia candida* to be. But even if it is extractable, it might be assumed, with reason, that mere contact of the ovum with enzyme in solution would not cause segmentation and that, even if the peripheral portions of the cytoplasm should be directly affected by such immersion, the general effect would be entirely different if contact, or diffusion, occurred within the substance farther toward the nucleus. Possibly the morphological character of the spermatozoön, specially adapted as it is for great motility and penetration, should imply that segmentation by indiffusible enzyme contained in fluid surrounding the ovum is no more possible in artificial than it is a part of normal fecundation. If it is ever found that spermatic enzyme, or zymogens, are causative influences in natural fertilization, I venture to predict, in view of the results of our experiments, that their action will also be shown to depend on their direct delivery to points *within* the ovum.

If ions are to be reckoned among the agents of proliferation, why, it may be asked, did they not make active the sperm extracts used in these experiments? Unfortunately, we know nothing at present of the proportion of *dissociated* electrolytes in the spermatozoön and in such extracts. The composition of the ash does not furnish an accurate idea of the amount in the spermatozoön of salts pre-existent as salts and *dissociable* in extracts, although the comparatively large quantity of ash in spermatozoa, as found by Hammarsten and others, may suggest proportionately large quantity of dissociable electrolyte. We know little of the relative proportion of the various constituents of spermatozoa and ova, and we have no knowledge of the absolute or relative quantity of free *ions* entering or acting within the ovum. The ions which become active in the ovum may be originally a part of the molecules of the proteid compounds of the ovum, or of the sperm, or of both until the spermatozoön mingles with the protoplasm of the ovum and forms new and probably simpler combinations. The writer's experiments were neither intended for, nor were their conditions suited to an investigation of this particular phase of the fertilization problem. The results cannot, therefore, be interpreted as having any bearing on them.

Summing up briefly, the chief experimental results of our work are:

1. Extracts of the spermatozoa of the sea-urchin, which have been made by the ordinary methods for the preparation of enzyme solutions, do not possess any power of causing proliferation of the ripe ovum.

2. No evidence could be furnished of the existence of a zymogen in spermatozoa.

3. Extracts of fertilized eggs, in the earlier stages of development, were likewise entirely devoid of segmental activity.

4. Enzyme seems to be excluded from the catalytic substances which Loeb and others have thought may influence the initial divisions of the ovum after the introduction of the spermatozoön, although it is possible that the conditions of these and previous experiments were unfavorable to the manifestation of activity on the part of fecundative ferment. It seems more probable, however, that Loeb's theory of the influence of spermatic *ions* in fertilization affords the true explanation of the phenomena in question.

Free use in the preparation of this paper has been made of facts and statements in the following publications:

Wilson. The Cell in Development and Inheritance, 1898.
Loeb. Papers in the American Journal of Physiology on Artificial Parthenogenesis: 1899, iii, p. 135; 1900, iii, p. 434, and iv, p. 178; 1901, iv, p. 424.
Gies. Do Spermatozoa Contain Enzyme Having the Power of Causing Development of Mature Ova? American Journal of Physiology, 1901, vi, p. 53.

INFANTILE PLEURISY WITH EFFUSION.

BY W. T. ENGLISH, M.D.,
OF PITTSBURG, PA.

THERE are few diseases in which the diagnostician is more frequently at fault than in pleurisy with effusion in the infant, the most common error being to confound it with pneumonia. To examine the infantile thorax intelligently presupposes a special knowledge of its peculiar anatomy, and the incidental modifications in size, shape, location and mobility of parts and organs.

Experience, which is a stepping-stone to confidence, leads, under most conditions, to commendable misgiving in the presence of infantile pleurisy with effusion. Cocksureness in discriminations involving pleuritic effusion and pneumonia belong only to those who have not yet been sublimated by the noble tutelage of recognized error. The dubious frame of mind prompts to careful scrutiny and permits no opportunity for re-examination to pass unimproved so long as the responsibility continues, and is therefore the better condition. After a few experiences with these maladies in the infant, physicians avoid comparisons with the clinical pictures of the diseases as presented by adult cases.

There are many difficulties in the way of a thorough physical examination of the baby thorax. The pose and covering favorable to best results are almost never realized. Needful quiescence is wanting, and, because of the small area of the infant thorax, the employment of the immediate methods of auscultation and percussion are precluded, or are rendered of little service. Persisting in the immediate methods of

FIG. 1.—Showing the drooping of shoulder and anterior deformity fourteen years after expulsion of pus from pleura.

percussion, the laying on of heavy hands awakens a resistance through the external sense of feeling and brings about a tissue tension which changes the residing note. The application of the side of the head to the child's thorax brings in play the sound conducting power of the head bones, and the audible phenomena belonging to the entire side are thus made confusing.

If a case of infantile pleurisy with effusion be investigated systematically, the history of chilliness, if secured at all, will be found to have exhibited an intensity, ranging from slight chill to severe rigor. A casual glance at the fever chart of forty-eight hours will betray extensive excursions, and even suggest septic processes. The fever is irregular and remittent. The pulse, always without rhyme or reason until the period of puberty, sustains its reputation. Pain cannot be definitely located, but is intimated in a pantomimic way and given a very vague abiding-place. The visualizing analysis of inspection loses its value as a means of differentiating pleurisy with effusion from pneumonia, as loss of mobility is common to both; and again the respiratory experience of the infant chest is too limited to be trustworthy. Flattening of the intercostals or distention is duly observed in a few cases, but flattening is rarely appreciable, and fluid sufficient to cause bulging does not often accumulate in the infant thorax.

Displacement of the heart-beat is seldom demonstrable in the extreme young, but if it can be it merits attention. This sign is most valuable in left-sided effusions. Vocal fremitus is not often observed in the infant chest, and the respirations are accelerated in proportion to the neurosal conditions rather than with the pressure of the fluid. Neurosal symptoms are emphasized to the degree of epileptiform seizures and the ultimate manifestations in the presence of purulent effusions have been those of meningitis. The respiratory action should be estimated during slumber or in quiescent wakeful periods.

The auditory phenomenon which may also appeal to touch—friction—is not intensely developed, and, when present, is evanescent and must be found without delay, or it will evade detection.

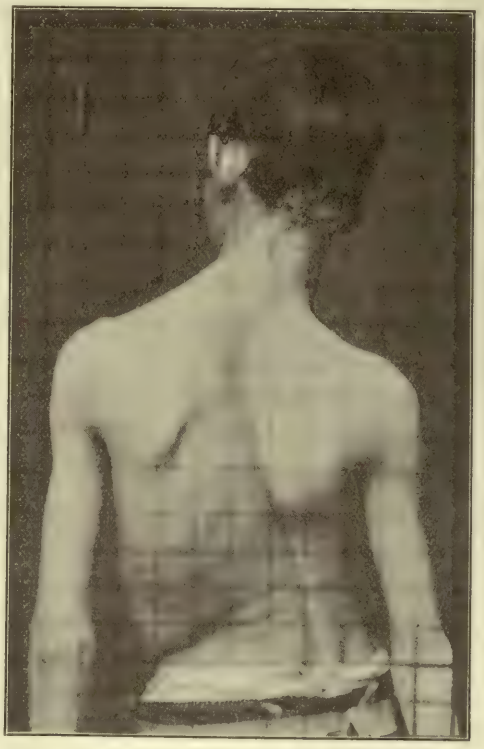


FIG. 2.—Showing posterior deformity fourteen years after expulsion of pus from pleura.

Influencing all auditory phenomena is the peculiar subtympanitic note residing in the child's thorax. Immediately over, as well as around the fluid within the pleura, percussion may secure a clear sound. Flatness belongs to massive effusions, and the tone elicited is a compromise between the tympanitic and the dull note. In using the light stroke, the tactile sense of resistance is sacrificed. The heavy stroke delivered upon the

thorax of the infant would awaken a response from the abdomen or stomach. An important fact often overlooked is the purely physical one, that fluid is a good conductor of sound, provided the sound be properly transmitted and through material which has good conducting qualities. The air vesicles are not good transmitters and so long as these intervene between the bronchial tubes and the fluid, the tubular sounds cannot travel. However, only a meager amount of fluid is required to collapse the infantile alveoli and produce atelectasis. The tubes continue some time thereafter to maintain their lumen and resist the pressure. These conditions impart to the percussion note dulness instead of flatness, modify tactile and vocal fremitus, contribute bronchophony, transmit bronchial râles and crepitations, thus sustaining the delusion of pneumonia. The clicking of coins upon the infantile pleuritic effusion is transmitted much better through the fluid than over the normal vesicular lung structure. If the circumscribed area be delineated, it will not be discovered necessarily in the lower portion of the chest, but may appear encysted in other localities. Adhesions may so

Fig. 3.—Showing contraction of diseased side fourteen years after expulsion of pus from pleura.

perfectly surround it that change in position has no effect upon it. It is only when the effusion is extremely large that the curve of Ellis and Damoiseau can be defined. Small areas of fluid will escape detection and often the diagnosis will be incomplete.

Having arrived at a suspicion of fluid, the diagnosis can only be determined by the aspirating needle. Moreover, it is the only sure method of determining the character of the fluid. In a few cases, aspiration is at once diagnostic and a measure which is conducive to cure. By the withdrawal of a very small amount of the simple effusion, absorption has been promoted. If the fluid is purulent, it should be removed without delay in order to prevent an empyema with last-

Fig. 4.—Showing extraordinary development of sound side fourteen years after expulsion of pus from pleura.

ing damages to the thorax, if not death to the patient.

In casting about for diagnostic means by which to attain the desirable and needful certitude, the radioscope has been faithfully appealed to, but in vain. One reliable aid is ever near at hand—the exploring needle. The ordinary hypodermic needle is never efficient. A large needle is required, but it need not be over one inch and a half in length. One precaution is to have it small enough to enter between the ribs without extending the wound unnecessarily. If the first puncture fails to secure fluid, a second should follow in forty-eight hours. If the general symptoms, or a previous puncture should intimate the probability of purulent fluid or pus, the needle adopted should be appropriately large.

Unfortunately, most cases are permitted to go on until pus is found, and the time required is very brief. The use of the aspirating needle is delayed until the opportunity is reduced to the necessity of accepting the only thing left in treatment—opening the thorax and draining.

The results lead ever more and more toward the worst sequelæ, for in very young subjects, where the walls are yielding, the change is, other things being equal, very much greater than in

the adult. The expulsion of the fluid, retained long enough to become purulent, has its influence upon the pulmonary elasticity, as well as upon the yielding and tender parieties. The lung never again expands completely, and occupies less space than formerly. The chest will be drawn inward, the diaphragm dragged upward, the shoulder of the affected side droops, and, in consequence of paralysis of muscles of the back, the spine yields to the traction of the sound side and we may have a distortion of the spinal column with the convexity toward the active side. The organs lying upon the margins of the unaffected side are thus made to encroach upon the side normally occupied by the lung. The diseased side no longer develops, while the sound side assumes extraordinary dimensions corresponding with its increased functions, and when such a series of misfortunes occur in the very young the deformity becomes more unsightly as the size increases, for the sound side grows with the growth and develops in harmony with the extra functional stress placed upon it.

The behavior of the fluid may betray its character. Absorption is the natural result if the conditions are favorable. However, serous exudate during infancy is not so readily absorbed as in adults. If the fluid lingers, its non-disappearance is probably due to its not being simple serum. Excessive sweating, anemia and hectic, observed in the presence of pus, do not exclude a consideration of the possibility of tubercle. The etiological factor should be sought for in every case, and the treatment made to conform therewith. Tuberculosis is demonstrated by the presence of bacilli in the fluid. Absence of bacteria in the pus constitutes the probability of tuberculosis. Streptococci and staphylococci are present in some cases of tuberculous empyema. Pneumococci ordinarily denote *meta pneumonia.*

Diseases of the heart, kidneys, inflammation of the liver, localized peritonitis, as appendicitis, and also lues, may act as causative agents in pleuritis. Pleurisy is a frequent complication of acute infectious diseases. We must bear in mind that empyema is common in children without more obvious reason than that the pleuritic attack is severe, or the resistance feeble. Empyema in babyhood is often that from the start.

Early evacuation of serous fluid should leave no other evidence than the scar upon the chest. In all cases where there are relapses, or a slow progress toward convalescence, an exploratory puncture should be made to determine if the cause is purulent fluid. The presence of pus constitutes an imperative demand for evacuation, as its presence precludes absorption. Two tubes should be used and safely secured in place covered with antiseptic gauze. These will soon drain the cavity and need not be retained long. Aspiration will not meet the needs and an incision will be the most conservative method, although resection may be required. Tonic treatment, including strychnine, iron, arsenic, etc., and, if possible a change of air and plenty of sunshine, are to be commended. Where needed change is denied, the inhalation of oxygen may become a valuable substitute. The medicinal treatment includes few remedies in the presence of sepsis. Support and stimulation of the circulatory system with caffeine, digitalis, strophanthus, strychnine, etc., are available. Bromides should be used in preference to chloral for restless conditions and codeine and Dover's syrup for pains and cough.

Treatment should include some effort toward prevention of the deformities already pictured. The earlier the child is taught to use deep breathing, the better for the crippled lung. Forceful breathing in positions of advantage to the weakened side may be inculcated as early as the subject is capable of learning. Prior to the voluntary self-exercise, the attendant should lift the arm and shoulders off the thorax and aid in producing respiration. The shoulder should be raised from the thorax during the period of sleep. Postural respiration will be useful during childhood and adolescence. When the child is sufficiently grown, there will be observed an inclination to carry bundles, packages, books, etc., beneath the arm upon the crippled side, as it seems better adapted therefor than the one which is excessively developed. This disposition must be corrected, as it promotes deformity. A habit of resting the hand upon the hip or other means of support and lifting the weight of the shoulder and arm from the weakened side will prevent much of the inequality which otherwise must follow. The clothing should never be suspended from the shoulder of the injured side, and during some portion of each day deep inspiration and forced expiration should be practised with the body inclined toward the sound side while the hand upon the diminished side is grasped well above the head lifting the shoulder from the chest.

Illustrative ot the results of pleurisy with effusion in infancy the following case is instructive.

Infant, J. W., at four months was attacked with what was supposed to be an attack of pneumonia. The physician then in attendance treated during a period of eight weeks. The record is wanting until the patient was treated by Dr. J. A. Duncan of Pittsburg, Pa. At this time an empyema was evident and it was treated by immediate evacuation and a drainage-tube. The time included from first illness up to this treatment was a little less than four months. The drainage was completed and the wound closed after three months. The results, however, upon the elasticity of the tissues of the lungs and thoracic development remained and the photographs presented show fairly well the deformity resulting. The subject is now sixteen years of age and has been under my observation during a period of two years. The treatment as above outlined has been adopted and the deformity continues without increase, but no hope can be entertained of any restoration to a more normal size or function of the parts.

TENDON AND MUSCLE TRANSFERENCE AND ARTHRODESIS IN INFANTILE PARALYSIS.

BY E. H. BRADFORD, M.D.,
OF BOSTON.

ALTHOUGH it has been said that, as the science of healing advances, the two branches of medicine and surgery would become so interwoven as to be practically inseparable, yet it is true that the range of pure surgery, or the handiwork of the art of healing, is increasing day by day. An illustration of this truth can be found in the surgical treatment of the results of anterior poliomyelitis. The two following cases may be cited as illustrative:

Case I.—A boy of six was brought for treatment suffering from the effects of infantile paralysis and showing nearly complete paralysis of the left leg and thigh. There were no contractions; ability to move the toes and slight power of flexing the knee remained. The glutei and a portion of the adductors retained some strength, but the quadratus femoris and the controlling muscles of the foot were paralyzed. The case was one demanding mechanical treatment and an apparatus was furnished with which the boy was able to walk freely without the use of a cane. Without the apparatus locomotion was impossible except with the use of crutches. This condition continued and the boy grew to manhood, gaining complete freedom in locomotion with the use of the apparatus, but being unable to do anything without it.

In this case the treatment consisted simply in the selection and application of a properly-devised apparatus. With this the condition of infirmity is so far ameliorated that the patient has become a self-supporting wage-earner.

In the second case more was accomplished by means of direct surgical intervention.

Case II.—A boy of eight was taken with extensive infantile paralysis, involving the muscles of the trunk and several muscles in both lower extremities. Recovery took place to a limited extent, but the patient was left with a severe lateral curvature and inability to walk without the use of crutches or a cane. There was a valgus position of the left foot and a varus of the right, with a tendency to equinus. There was inability to extend the right leg at the knee, which dropped when weight was thrown upon it. After a period of the usual treatment of electricity and massage, the sartorius muscle was transferred to the tendon of the rectus femoris. In six months the ability to extend the leg had recovered so that no apparatus was needed when weight was thrown upon that limb. The transference of one of the tibial tendons to the perineal attachment prevented the tendency to varus and the boy at the age of fifteen is able to walk freely without mechanical appliances to the right limb, but needing in the left foot a slight ankle support.

Case III.—This case will illustrate the advantage of more radical surgical intervention. A pauper was brought to one of the hospitals with a complete paralysis of the right lower extremity. No continued treatment by apparatus was feasible, and it was decided to stiffen the knee-joint. This was done by cutting down upon the knee and removing the cartilaginous surfaces of the femur and tibia. Firm union took place and a few years later the girl was able to obtain her livelihood as a waitress. She needed no apparatus.

The three methods illustrated by these cases, *viz.*, mechanical treatment, muscle and tendon transference, and the stiffening of the joint, are measures which demand a combination of considerable skill and judgment in the suitable application of each to individual cases. A consideration of the disease is not here presented. As is well known, medication is of little value at the later stage of the affection when the patient is brought to the surgeon in a crippled condition, the problem being the restoration to the patient of as much function of the limb as is possible. This involves the correction of the deformity in some instances which will not be considered here; nor will a description of the various appliances needed for the correction and prevention of deformity be entered upon in this place. This paper is intended to call attention to the value of the application of both tendon and muscle transference and arthrodesis in many of the cases of poliomyelitis.

Although the palsies following anterior poliomyelitis vary greatly, in many instances certain muscles retain some power and this power is capable of development from use and of degeneration in case it is not used.

In the lower extremity, in the severest cases, all the muscles are affected, including the adductor group and the glutei. Such cases appear to be beyond the aid of operative surgery. Arthrodesis, stiffening of the hip, knee- and ankle-joint, suggests itself, but the measure seems to be of questionable value, owing to the clumsy condition in which the limb is left. The application of an apparatus with the aid of a cane appears in cases of this sort to be the only resource.

Where, as is more frequently the case, some muscles remain, an advantage can be gained by the employment of the non-paralyzed muscles. The muscles frequently left retaining some power are the sartorius, the adductor group and the hamstrings. The transference of the sartorius to the rectus is a measure which can be done without difficulty. The obstacle met is usually the abnormal position of the sartorius, which is often nearer the hamstring at its lower attachment. A curved incision at the lower end of the femoral will bring to light the attachment of this muscle, which should be entirely freed, brought up and transplanted into the firm sheath of the extensor cruris. Where the sartorius is found to be weak the outer hamstring or adductor can be detached and brought forward and inserted on the outer side into the fascia and tendon of the extensor cruris. Where the adductor group is completely paralyzed the problem presented is certainly a

difficult one. Whether the transference of the glutei can in any way be accomplished to supplement weakened adductors is uncertain, but this is perhaps within the limits of possibility as is also the shortening of the paralyzed adductors that they may act as a cord to check extreme abduction. In paralytic disabilities of the knee where all the muscles are paralyzed, making muscle transference impossible, arthrodesis is a method only to be resorted to in cases where no mechanical treatment is possible. That a useful limb can be furnished in this way has been abundantly shown, but the resulting stiff knee can be avoided by a properly-constructed apparatus, usually preferable to the annoyance of a stiff knee.

In the paralysis of the muscles controlling the action of the feet, the combined employment of arthrodesis and tendon transference is of great value. These paralyses may be grouped as follows: (1) Palsies of all the muscles controlling the movements of the feet; (2) palsies of the anterior group; (3) palsies of the anterior group, except the extensor proprius pollicis; (4) palsies of the perineal group alone.

Where the muscles are all paralyzed in the front of the foot, the tendo Achillis can be split and a portion transferred and attached to the paralyzed peroneus tertius or to the tibialis anticus, or both. The procedure is not difficult and is performed by making an oblique incision on the outer side of the leg, securing the tendon of the tibialis anticus and of the peroneus tertius above the anterior annular ligament, following them well up to the muscular origin in the leg. A portion of the tendo Achillis is cut off and passed obliquely forward and stitched to both of the cut tendons.

Where the gastrocnemius is paralyzed, several procedures have been recommended. The insertion of the tibialis posticus and one of the peronei; the splicing of the tendo Achillis, all are used. The latter, the shortening of the tendo Achillis, has not proved of as great value as the insertion of the tibialis posticus or the peroneus brevis.

The success in these undertakings depends, not only upon the amount of care in the performance, but also upon the uncertain quality of the strength of the muscles, which is something which is not to be readily determined before an operation.

In considering the treatment of these paralyses it is necessary to bear in mind the peculiar anatomical condition of the joints of the foot. It will be remembered that in addition to the ankle-joint proper with an up and down movement, *i. e.*, the tibio-astragaloid joint, there is the mid-tarsal or Chopart joint, or the articulation between the astragalus and the scaphoid, the os calcis and the cuboid, giving a side motion with a certain amount of obliquity. In addition to this a certain amount of play will be found in the metatarso articulation, particularly in the first metatarsal.

Tendon transference is of value for the purpose of preventing the dropping of the front of the foot, or where the anterior group of muscles have been weakened. Where either the extensor proprius pollicis, anterior tibial, or the peroneus tertius are unparalyzed, they can be transferred to either side and in that way give power for the raising of the front of the foot. Whether this can be done successfully will depend upon the strength of the muscle and the length of the foot. If any of the muscles of the toes remain unparalyzed it is possible to utilize the extensor communis digitorum by uniting a paralyzed anterior tibial or peroneal muscle or muscular fascia to the extensor communis digitorum. In this way in many cases the dropping of the front of the foot can be prevented.

In many of the older cases of this affection, distortion develops from the adapted shortening of the soft tissue. Valgus and varus deformities are established, induced at first by the inequality of the strength of the muscles and aggravated by the abnormal strain brought upon the various portions of the bones. Under these conditions simple tendon transference is not sufficient to prevent a relapse after a correction, as the transferred tendons are not sufficiently strong to withstand the unusual strain brought upon the foot. Under these circumstances arthrodesis of the mid-tarsal articulation is of a special service. No difficulty is met with in this operation. An external incision is made and the articulation between the os calcis and the cuboid laid bare, the peroneal tendons being pulled aside. The cartilaginous surfaces of the os calcis and the cuboid are removed with a chisel, and if any abnormality in the shape of the bone has taken place this can be removed, as the incision can be enlarged or another incision can be made on the inner side, and the scaphoid and astragalus ankylosed in the same way. This, with proper correction, does not interfere with the up-and-down motion of the foot, but does interfere with the twist which it is desirable to prevent. In cases without muscular strength of any of the muscles of the leg, front or back, an ankylosis between the tibia and the astragalus can be performed, but the advantage of this over a proper appliance is not manifest and the operation hardly recommends itself for this reason. A partial operation to strengthen the ligaments on either side of the ankle by shortening relaxed ligaments is of advantage.

The percentage of complete success from these different procedures in a large number of cases is yet to be accurately determined by further clinical investigation. Where these measures have been carried out, benefit is evident in suitable cases and it is desirable to call attention to the advantage of a combination of arthrodesis and tendon transference, *i. e.*, to the employment of one or both with or without suitable apparatus in proper cases, and to emphasize the fact that the surgeon has, in the management of this disability difficult of treatment, an opportunity for the employment of surgical judgment, anatomical and physiological knowledge, and the exercise of trained skill with the expectation that in a large percentage of cases benefit will follow his properly-directed efforts.

THE MANAGEMENT OF ACUTE GONORRHEA.

BY LOUIS BROTER, M.D.,
OF NEW YORK;
FORMER ASSISTANT, GENITO-URINARY DEPARTMENT, GOOD SAMARITAN DISPENSARY.

Among all diseases known to medical men there are few, if any, for which so many remedies have been advocated and used as in gonorrhea. It would be more than useless for me to describe them here, for in this brief article space is only given for the latest and best methods of treating this disease as derived from the experience of well-known men on this subject and my own experience as well.

When a patient comes to a physician's office with a discharge from his urethra, the physician should not express an opinion that it is gonorrhea unless microscopical examination is made and gonococci are found, for if it is a non-infectious urethritis the duration, course and prognosis will vary widely from that of a true gonorrhea. The treatment of a non-infectious urethritis will also differ decidedly from that of infectious urethritis. As a rule, the only treatment necessary in non-infectious urethritis is removal of the cause; rest and an alkali to ensure a bland condition of urine. After the discharge is examined and gonococci are found, treatment should be instituted in the following way:

Abortive Treatment.—Many abortive methods are advertised in public newspapers by quacks, some of whom specify the duration of the disease as being from five to eight days, but such rapid cures place the life of the innocent patient in jeopardy. I regret the condition of a patient who falls into the hands of these quacks. The physician must remember that checking a discharge does not necessarily mean curing gonorrhea. For a number of years experiments were made with various drugs such as silver nitrate, bichloride of mercury, etc., with the idea of immediately killing the gonococci, but it has been all in vain. They have only succeeded in producing lesions of various kinds in the urethra, setting up all kinds of complications, thus prolonging the duration of the disease. Those cases which were reported as aborted were either non-infectious or pronounced cured when the discharge had ceased. It is now known to every intelligent practitioner that the discharge may disappear and return after an elapse of a few weeks, for the gonococci penetrate the surface of the mucous membrane of the urethra and remain lodged in the deeper tissues, hence attempts to kill the gonococci immediately would mean to completely destroy the mucous membrane. This is manifestly an absurd procedure. Let us, therefore, be convinced that at present no remedy is known which will abort a true gonorrhea and let us hope that in the future we will have a remedy which will not only abort but prevent the occurrence of this disease.

Local Treatment.—Of all methods known I find the irrigation method the best. In 1894 not a dozen men in the world were using the irrigation treatment in gonorrhea. Many had attempted and discarded it; owing to defective apparatus and ignorance of technic, unfortunate results were obtained. Among the earliest successful men were Felicke of Budapest, Jenet of Paris, E. R. W. Frank of Berlin and Swinburne of New York. Afterward this method of treatment became known as the "Valentine method" and still preserves its name. To Valentine belongs the credit of devising a simple apparatus, developing the technic, rendering rules precise and of writing a number of articles pointing out the advantages and disadvantages of this method. The irrigator is too familiar to the profession to be described.

Method of Irrigation.—The method of irrigation is worthy of description, for, although thousands of physicians are using this method, many are using it in different ways. After urinary and microscopical examinations are made the patient is instructed to drop his trousers to his knees, to roll up the shirt and undershirt, thus exposing the abdomen. A rubber apron having a hole in the middle for the penis, thus avoiding soiling of clothes, is then put on and the patient stands close to a stand having a basin in the center which I use for this especial purpose. The patient's eyes should be directed to the percolator of the irrigator to thus engage his attention. This is especially good for neurotic patients.

The stand is placed to the left of the irrigator. The percolator is raised as high as three feet. Have a standard solution of potassium permanganate, 1-4000 in 1 quart of water, in the percolator. This may be increased up to 1-1000 as the disease advances. The temperature should be at least 100° F. and may be increased up to 112-120° F. as the patient becomes accustomed to it. The physician stands near the irrigator and to the right of patient. Several clean glasses should be placed on a stand for testing urine; one glass should contain a solution of oxalic acid to remove stains caused by permanganate; one glass of strong lysol solution or strong bichloride to keep the nozzles in, so as to prevent re-infection. Before each irrigation the nozzle should be washed with boiling water. After use, place it in lysol or bichloride. At night wash same with hot soda solution. Unless the above precautions were taken the nozzles should not be used, for it would be criminal negligence to produce re-infection.

Take the penis in the left hand between index, middle and thumb fingers; take the stopcock of the irrigator in the right hand; hold the nozzle under boiling water to wash away all microorganisms and dirt. Allow some of the solution to flow on glans, foreskin and meatus. Now direct the stream into the urethra with gradual increase. Should it be desired to wash out the posterior urethra or the bladder, the nozzle must be brought in close proximity to the meatus, at the same time telling the patient to attempt to urinate. This last act, as will be readily under-

stood, loosens the cut-off muscle and the solution gains an entrance. This is continued until an entire quart of the solution is used. After irrigation I inject into the urethra three drams of a 2-per-cent. solution of protargol through an ordinary urethral syringe. The patient is instructed to keep the meatus closed by pinching it with his fingers and he thus retains the solution for from 5 to 10 minutes, after which he allows it to flow out. Some patients will faint during this act. I would, therefore, suggest that they be placed in the recumbent posture, especially the first time. The number of irrigations will vary with each individual case. I usually make it a rule to give irrigations of permanganate twice daily, followed by protargol, until the discharge has lessened and it has changed from a purulent to a serous character. This usually takes from two to three weeks. After this I give irrigations once daily, followed by injections of zinc or lead or both; sometimes I add bismuth to the above two drugs. I find that zinc and lead have a great tendency to check the slight discharge which is seen in the declining stages of the disease. After the urine is clear and the discharge and gonococci have disappeared, I still give irritations once a week for another month.

I have found that since I began the irrigation method chordee has been absent, no complications have arisen and the duration has been shortened. It is impossible with a 3-dram syringe to do away with all the mucus, pus and gonococci which become impacted within the urethra during the intervals of treatment. On the other hand, with the irrigation method we are enabled to give the urethra a thorough mechanical cleansing, flushing it out, at the same time killing the gonococci because of the germicidal effect of the potassium permanganate. I believe that any physician who has any experience at all with the irrigation treatment will agree with me that this method is one of the greatest blessings that human thought and observation have furnished to mankind.

Constitutional Treatment.—Alkalies and diuretics are best employed to keep the urine unirritating. Bicarbonate of soda in one-dram doses twice daily may be used. Potassium acetate in 5 to 20-grain doses, t.i.d., is good. A good pill is methylene blue, grain one; boracic acid, grains 5; one t.i.d. A rather serious objection to this is the discoloration of urine and feces. This last pill serves a two-fold purpose. It is a diuretic and urinary antiseptic. It should be given only during the first two weeks. After this time I give oleum santali, balsam copaibæ or the various preparations of cubeb, in capsule form.

There is little room for doubt that hygienic environment is of greatest importance. The patient should rest in bed most of his time in order to lessen congestion of the parts. All exercises, such as dancing, bicycling, horseback and running, should be avoided. Avoid sexual excitement entirely. Daily movement of the bowels is important. No beverages of any kinds such as beer, whiskey, ginger ale, etc., should be used, for they are genito-urinary irritants. The patient should avoid fats, meats, acids or sweets, or any food difficult of digestion. Smoking is to be avoided. Hot milk is very good. It is the duty of the physician to impress upon the patient that, unless he will carry out all his orders, complications will invariably occur. It is also the duty of the physician to get out all superstitions and fictions which some of them have learned from their friends, such as: (1) "Drinking away a clap," *i.e.*, drinking all kinds of beverages, thus causing disease to disappear. (2) "Giving away a clap," *i.e.*, having sexual intercourse during disease, thus leaving it with the woman. (3) "Purifying the system," *i.e.*, allowing the discharge to run for at least one or two weeks, thus purifying system.

Unfortunately, these patients come under physicians' observations after they have undergone all above mentioned experiments.

273 East Broadway.

MEDICAL PROGRESS.

Orthostatic Albuminuria and Scarlatinal Nephritis.—Functional albuminuria is now divided by most writers into two main groups, the cyclic, occurring at a certain hour of the day, independently of fatigue and of digestion, and the orthostatic, determined by the upright posture. Orthostatic albuminuria, according to C. AUBERTIN (*La Presse Méd.*, Oct. 9, 1901), is really not purely functional, but is commonly a relic of infectious nephritis and occurs where there remains a certain degree of renal insufficiency. Aubertin describes a case of scarlatinal nephritis in which, after the initial period of continuous and abundant albuminuria, there followed six or seven weeks of albuminuria of posture, not influenced in any way by fatigue, alimentation or electricity. Albuminuria was still present ten months after the scarlatinal attack, but was gradually influenced less and less by mere posture, while diet, muscular exercise, etc., became more and more important as affecting the renal function. Among the previously published cases of orthostatic albuminuria the majority give a previous history of some infectious disease, probably involving the kidney and rendering it susceptible to disturbances of function.

Gangrenous Erysipelas and Streptococcus Serumtherapy.—Antistreptococcus serum from the laboratory at Bern was used with apparent success in a case of gangrenous erysipelas by A. Joss (*Corresp.-Blatt f. Schweizer Arzte*, Oct. 1, 1901). The patient was a woman who, during the last few days of pregnancy, suffered from a severe nasal catarrh; the day after her child was born she experienced pain and a sense of tension in the nasal region, and a day later severe erysipelas covered the right side of the face. Sodium salicylate and antipyrin were

given internally and the skin over the affected area was painted with carbol-turpentine-glycerin. Two days later gangrene appeared in the skin covering the eyelid, the swelling advanced into the scalp and the labia majora became red and swollen. Extension of the gangrene and the appearance of bed-sores with increased infiltration about the labia were the next developments; the patient began to look "typhoid"; her pulse was 130, respirations 40, temperature 38.5° C. Six serum injections were made, the first 20 c.c., the remainder 10 c.c. each. The pulse became less rapid after the second injection and continued to improve while the treatment was continued. Necrotic tissue came away from the eyelid and labia majora. The patient later showed physical signs of a disseminated bronchopneumonia (probably streptococcus pneumonia) with bloody sputum. The temperature fell rapidly as soon as the gangrenous masses were cast off. In view of the severity of the infection the writer believes that but for the serumtherapy the case would have terminated fatally.

Causes and Treatment of Vomiting in Pregnancy.—Persistent vomiting during pregnancy is not a morbid entity, but a mere exaggeration of the milder form which occurs so frequently. Three theories of causation are given, namely: (1) Nervous disorder; (2) reflex originating in the genital organs; (3) intoxication. While the nervous theories cannot be wholly set aside, M. HUGE (*La Presse Méd.*, Oct. 9, 1901) considers most cases of incorrigible vomiting to be due to intoxication. The cause is to be sought in disorders of the liver, kidneys, stomach or intestines, superinduced by the excessive work imposed on these organs by pregnancy. Treatment may address itself to the nervous state of the patient, to the gastric condition, and to the systemic intoxication. Reflex nausea due to uterine lesions or displacements calls for treatment of these conditions. By careful dieting and appropriate medication gastric digestion must be promoted and cardiac erethism controlled. The urine always demands close study; albuminuria or diminished urea suggests a milk regimen; antisepsis of the alimentary tract is an important indication. Rectal alimentation may obviate in part errors of digestion and absorption incident to feeding by mouth. Evacuation of the uterus is a last resort.

Glycosuria and Life Insurance.—The rigorous and unqualified rejection by life insurance companies of all applicants suffering from glycosuria is held by A. SIREDEY (*La Méd. Moderne*, Oct. 2, 1901) to be an unnecessary and unjustifiable practice. He believes that the interest of the companies does not demand the rejection of diabetics over thirty-five years of age who are well nourished and whose organs are apparently sound, although prudence might dictate in these cases a slight advance over ordinary premiums. Where glycosuria follows overwork, emotion or traumatism a re-examination after six months will often reveal a radical change for the better; hence in this class of cases postponement and not rejection is indicated. Siredey, however, endorses the existing rule of rejection so far as it applies to individuals under thirty-five years of age and to cases of emaciating diabetes at all ages.

Extraserous Transposition of the Testicle.—A method of extraserous transposition of the testicle was proposed by L. LONGUET in October, 1900. With certain modifications in technic this method is again recommended by the same writer for the treatment of hydrocele of the tunica, testicular ectopia and cysts of the cord. Longuet gives the results of 56 operations (*Le Progrès Méd.*, Sept. 21, 1901), 50 of which were done either for hydrocele or hematocele. He utterly renounces "combined eversion and excision" of the tunica vaginalis in enormous hydrocele; experience teaches that simple transposition of the testicle suffices, however large the vaginal cyst. The removal of the fluid-contents of these cysts is followed by a prompt disappearance of the enormous pocket, the walls shrinking in virtue of their elasticity. Among Longuet's first series of cases of hydrocele and hematocele, published in 1900, post-operative history has been obtained in eight instances, and in none of these has there been any return of the original condition. Nothing was gained, however, in three cases of testicular ectopia with shortness of the cord; better results may be anticipated where the cord is of sufficient length. Longuet's method has been applied to the treatment of varicocele too recently for the obtainment of evidence as to its remote effects; but in three reported cases the operation was followed within five days by cessation of pain and disappearance of the varicose tumor. The ordinary procedure is high transposition of the testicle in varicocele, low transposition in ectopia, internal transposition in hydrocele. Transseptal displacement is an exceptional resort.

Diphtheria.—Notwithstanding all that has been accomplished with respect to this disease, both from therapeutic and diagnostic standpoints as the result of scientific research, there still remains much that is obscure in regard to the exact bacteriological conditions which underlie its various manifestations. The precise relations between true and pseudodiphtheritic bacilli have not as yet been fully ascertained. The study by LOUIS CORBETT (*Jour. Hygiene*, Oct. 1, 1901) of the epidemic which occurred in Cambridge, England, in the spring of 1901, is of interest from several standpoints. As the result of his work he holds that there is no reason for believing that the pseudodiphtheritic bacillus is other than perfectly innocuous to man. It is an error to believe that true diphtheria bacilli are distributed among the healthy members of a community free from diphtheria. He found genuine diphtheria bacilli in the healthy throats only of those who had come into more or less direct contact with actual cases of diphtheria. Partially attenuated bacilli were never found and in no case investigated was a virulent bacillus replaced by a non-virulent before its disappearance. Whether persons without

apparent illness who are found to have true diphtheria bacilli in their throats should be reported as cases of diphtheria is a mooted question. The difficulties which stand in the way of such a procedure are manifold. Nevertheless the institution of such a measure would be of undoubted benefit in controlling the spread of the disease.

Etiology of Vaccinia.—Although a large amount of work has been done upon this subject it is not as yet absolutely decided whether the causative agent is of a protozoic or bacterial nature. Dr. von Wasielewski (*Z'tschrift f. Hygiene u. Inf.*, Oct. 4, 1901) has contributed extensive investigations along this line. His work comprises both microscopical study and experimental research. He arrives at the following conclusions: (1) The vaccine bodies are peculiar, characteristic forms which are present in variola and vaccinia but absent in other conditions and in health; the bacteria described as producing vaccinia are saprophytes and devoid of etiological significance, as the action of bacteria-free lymph proves. (2) These bodies appear in the cuticle epithelial cells of rabbits without fail shortly after the virus is introduced. (3) They cannot be made to so appear by the employment of any substance save vaccine virus. (4) These bodies are neither leucocytes nor products therefrom. (5) That they are derived from the nuclei of the epithelial cells is contradicted by their appearance in absolutely normal cells, their presence in mitotic dividing cells and their usual position in the periphery of the cell removed from the nucleus. (6) That they arise from the cell protoplasm as the result of the action of a specific poison is improbable. (7) The size, form and configuration of these bodies, as well as the method of their multiplication and the appearance of degeneration forms, tend toward the opinion that they are "parasite cells" (protozoa). (8) The changes brought about by their presence in the epithelial cells supports this view. (9) Since no regularly appearing bacteria are uniformly present in the inoculated area, these bodies must be regarded as the etiological factors in the causation of vaccinia.

Antipyretics in Acute Infectious Conditions.—Ideas concerning the mode of production and significance of fever in acute infectious conditions have during the last few years undergone considerable alteration from those formerly held. Discoveries which have shown the presence in these conditions in the blood of various substances giving rise to the bactericidal and agglutinating sera have led to the opinion that the fever at least in part is the result of the reaction occurring in certain cells and organs where these substances are produced. As the production of these substances largely determines the clinical course of any given infection, it becomes of interest to ascertain whether the employment of antipyretic agents has any influence upon the production of such bactericidal or agglutinating substances. Albert Schültze (*Z'tschrift f. Hygiene u. Inf.*, Oct. 4, 1901) attempts to solve this question by the means of experimental research. His investigations were limited to the study of antipyrin. He inoculated rabbits intravenously with typhoid cultures. These in a few hours developed a rise of temperature. Into some he then introduced hypodermically small quantities of antipyrin, while others were maintained as controls. Those receiving the antipyrin showed a marked and prompt fall of temperature. No differences in the bactericidal or agglutinating power of the blood was observed between the animals so treated and the controls which received no antipyretic medication. This shows that antipyrin exerts no unfavorable influence over the formation of specific immunizing substances.

Pathology of Aneurism.—Some diversity of opinion is prevalent with respect to the pathological changes which underlie the formation of aneurism. The earlier conception was that simple inflammatory processes of the tunica intima and media were the chief causative factors. Latterly traumatism has been regarded as plying the most important part in the origin of this condition. A. Fabris (*Virchow's Archiv*, B. 165, H. 3) has investigated this subject by the means of experimental research. He observed the effect of traumatism upon the arteries and the intensity and duration of the changes thus produced. These he compared with the alterations occasioned by other lesions which give rise to aneurism. The result of his work shows that traumatism produces in the arterial wall rents of various size followed by degeneration of the elastic fibers. There occurs only a slight increase of the lumen of the vessel, which soon disappears in consequence of the regeneration process. In addition to the formation of new elasic fibers there occurs also an hypertrophy of the muscular coat of the vessel. The tissue thus regenerated, being of less functional value than the original structure of the vessel, undergoes dilatation which persists and gives rise to the formation of aneurism.

Treatment of Carcinoma.—A new method of combating this group of malignant tumors is suggested by F. Loeffler (*Deut. med. Woch.*, Oct. 17, 1901). He proposes the inoculation of persons afflicted with carcinoma, especially the inoperable cases, with the plasmodium of tertian malarial fever, and bases his proposition on the following facts. Various observers have noted that carcinomatous growths have been inhibited and that improvement has taken place when the patient in question became subjects of a malarial invasion, and, moreover, that in the tropics, where malarial diseases abound, carcinoma is practically unknown. He also believes that carcinoma is on the increase in Central Europe, since malaria has been successfully combated and the number of its sufferers reduced. Further and more detailed observations are necessary in what may prove a great field for future discovery and investigation.

Infectious Parotitis.—A case in a young

adult with severe symptoms resembling typhoid, is reported by E. Schwartzkopf (*Deut. med. Woch.*, Oct. 17, 1901). The invasion was marked by chill and rise of temperature, with headache, vertigo, abdominal pains. Alternate states of stupor and delirium followed. Region of liver and spleen very tender to the touch, abdominal wall tense. Testicles not involved. The differential diagnosis from typhoid depended on the enlargement of the parotids, the presence of an epidemic of mumps in that locality, the absence of the characteristic eruption, and the rapid recovery.

Dysenteric Bacilli.—Since the bacteriological investigations by Shiga of epidemic Japanese dysentery much work has been done with respect to this subject by various observers in many different countries with the result that several organisms have been isolated and proclaimed as the causative agents in different dysenteric epidemics. Simon Flexner (*C'tlblt. f. Bak.*, Oct. 12, 1901) has undertaken the comparative study of several of these so-called dysenteric bacilli. The organisms thus compared were Shiga's, Kruse's, Flexner's, and in addition several received from Manila and Porto Rico. A comparison of their morphology shows only minor variations which are confined to differences of length and breadth. All possess motility and flagella, although this observer was unable to demonstrate the presence of the latter. The agglutination reaction is of the greatest importance. The blood used for this purpose was obtained from Manila and Porto Rico, also from several cases of dysentery in the Philadelphia Hospital and in Morven, N. C. The serum of partially-immunized goats was also employed. All of the bacilli examined were agglutinated by every one of the bloods mentioned. The reactions, however, were not always of the same intensity, in some cases to produce a given reaction weaker dilutions being required than in others. The inter-agglutinatability of these organisms leaves little doubt as to their common identity and indicates that the dysenteries occurring in the Far East, Germany, West Indies and this country, are caused by the same organism, and justifies the view that the determination of a specific organism of dysentery is near at hand.

Physiological Action of Suprarenal Extract.—More exact physiological research on this substance or substances is given by J. N. Langley (*Jour. of Phys.*, Oct. 16, 1901). He observed the effect produced when introduced subcutaneously or intravenously into cats and rabbits. Certain varieties of commercial suprarenal tablets were used as was also the extract prepared directly from the gland. No wide variation was observed in the action of products obtained from different sources. In obtaining the extract from the gland this was removed from the body directly after death and dried in a desiccator. When about to be used the dried substance was first ground with sand and then with a .75-per-cent. salt solution, a drop of acetic acid being added. The mixture was then boiled and filtered. The proportion of dried gland to salt solution was 1 to 100. He finds that the inoculation of this substance gives rise to an increased secretion of all the salivary glands as well as from the buccal, esophageal and tracheal mucous membranes. It causes a primary pallor of these tissues followed by a flushing. There occurs an increased, followed by a decreased flow of bile. It does not produce a secretion from the pancreas, but may increase a secretion already existing. No secretion from the sweat-glands is produced. It causes an inhibition of the urinary bladder, intestine, gall-bladder, cardiac sphincter of the stomach and the stomach itself. It produces dilatation of the pupil, protrusion of the eyeball and retraction of the nictitating membranes. It causes contraction and pallor of the uterus, vas deferens and seminal vesicles. Its action upon the arteries is unequal, producing a more marked contraction of the medium-sized arteries of the abdominal viscera than of the smaller, but easily visible ones. It always causes great contraction of the very small vessels, either arterioles or capillaries. There occurs a marked rise in blood-pressure. It causes a paralysis of the vagus which is, however, of brief duration.

Hemolytic Action of Typhoid Bacillus.—The ability of various micro-organisms to give rise to metabolic products which cause the disintergration of the red blood-cells has recently been extensively investigated. It has been found that, as a rule, pathogenic bacteria possess this property which is exercised, however, within wide limits, varying markedly with the various species of microbes and the external conditions under which they find themselves placed. E. Levy and Prosper Levy (*C'tlblt. f. Bak.*, Sept. 30, 1901) show that the typhoid bacillus possesses marked hemolytic power. In their work they employed filtrates of 14-day cultures of this organism in weakly alkaline bouillon. A very small amount of such filtrate when added to dog's blood caused rapid and complete disintegration of the red cells. Dogs which were inoculated subcutaneously with sterilized typhoid cultures showed, after six days, the presence of anti-hemolytic substances in their blood-serum. When a small amount of such serum was added to normal dog's blood the disintegration of the red blood-cells by the products of the typhoid bacillus was entirely prevented. These anti-hemolytic substances may be submitted to a temperature of 56° C. without undergoing alteration.

Cholecystitis and the Bacillus Typhosus.—Although in many cases of cholecystitis, accompanying typhoid fever, typhoid bacilli have been isolated from the gall-bladder, most of the cases so reported are open to the objection that the organisms so obtained have not been fully identified, the agglutination test not having been employed. Albert Brion (*C'tlblt. f. Bak.*, Sept. 30, 1901) reports a case of cholecystitis occurring in typhoid fever. The contents of the gall-

bladder were examined twenty-seven hours after death and showed a pure culture of the bacillus typhosus. These organisms when inoculated into a rabbit gave rise to a serum which agglutinated known typhoid bacilli in a 1-300 dilution. There remains, therefore, no doubt of the identity of the organisms isolated.

Metachromatic Granules in Spore-forming Bacteria.—Numerous observers have demonstrated the presence of various varieties of granule formation in the protoplasmic bodies of certain spore-forming bacilli. Recently E. KROMPECHER (*C'tlblt. f. Bak.*, Oct. 8, 1901) has shown the presence of metachromatic granules in the bodies of several such species (b. anthracis, b. concentricum and b. anthracoides) when they have been submitted to artificial cultivation upon agar, potato or gelatin. This form of granulation has not been hitherto described and its mode of development is unknown. When stained with carbol-methylen blue, they take a bright red color even when the organism has been exposed to an extremely elevated temperature. They usually appear in the center of the bacillus. It is thought that they are concerned in spore-formation, since they only occur in spore-bearing organisms and are resistant to heat. They are easily differentiated from the Babes-Erust bodies by their location in the bacillus and their metachromatic staining properties; moreover, both of these varieties of granulation may be present in the same organism. In general it may be said that no relation exists between the number of Babes-Ernst bodies present and the virulence of the bacillus.

Anemia with Chronic Enlargement of Spleen.—After studying the literature of anemia splenica infantiva and anemia infantum pseudoleucemica, A. H. WENTWORTH (*Boston Med. and Surg. Jour.*, Oct. 31, 1901) concludes that these are identical conditions and that the apparent differences are due to the fact that the observations were made at different periods. Before 1890 modern methods of blood-examination were not generally employed; after 1890, when most of the work on anemia infantum pseudoleucemica was done, blood-examinations absorbed everybody's attention to such an extent that observation of the clinical course of the disease was neglected. The blood-changes in so-called splenic anemia are those of a secondary anemia; the degree of anemia varies in different cases. The degree of cachexia may not correspond with the blood-changes, which are often moderate. The cachexia is probably due to a chronic intoxication similar to that produced by cancer or tuberculosis. The mere interference with splenic function from overgrowth of fibrous tissue could not produce the symptoms described as characteristic in these cases; it is known that the splenic functions, whatever they may be, are not essential to life and probably not essential to the health of the individual. While fibrous changes can cause interference with the functions of an organ, it is not easy to see how they can produce toxin. Besides, chronic fibrous changes in the spleen are associated with a variety of well-known causes, and toxic substances are not present in many of these conditions. The statement that splenic alterations are primary lacks confirmation. Bruhl believes that the splenic enlargement may follow or precede the anemia. Nothing really characteristic of a primary disease has been discovered in any organ or in the blood in reported cases of splenic anemia. There is no apparent connection between the character of the blood and the splenic changes in infancy; there are varying degrees of anemia and of leucocytosis in cases with identical lesions in the spleen. These differences cannot be explained by the duration of the disease.

Respiratory Conditions Dependent upon Gout and Obesity.—The deposit of abnormal masses of fat in the abdominal and thoracic cavities encroaches on the breathing space and diminishes respiratory capacity. The weight of external fat deposits restrains respiratory movements and depositions in the upper part of the abdominal cavity prevent full diaphragmatic excursions, These interferences with lung expansion naturally excite dyspnea upon muscular exercise or upon overdistention of the stomach. Dyspnea is more marked in the anemic than in the plethoric variety of obesity. J. M. ANDERS (*Phila. Med. Jour.*, Oct. 26, 1901) calls attention to a thoracic symptom belonging to overfatness, namely, pain in the subscapular and intrascapular muscles; clinically this must be distinguished from rheumatic and neuralgic pains. Hyperemic (passive) bronchitis with coughs and copious mucoid expectoration may be due to restrictions of the thoracic movement and to the enfeebled heart action so often present in these cases. Closely connected with this variety of bronchitis and to some extent dependent on it, is asthma. There is also an asthma in obesity due to gastrectasis associated with a high position of the diaphragm. Cases of asthma due to obesity can be cured by attention to the underlying causative liver condition and a rearrangement of the diet so as to overcome the obesity. Gout often plays a prominent part in asthma occurring in obese subjects, and gout occurring independently may also cause asthma. The dry chronic bronchitis of Laennec is recognized as a distinct variety of bronchitis due to the gouty state. The cough is dry, irritative and attended with slight expectoration. Cardiac, renal and articular symptoms of gout may be absent, but there is a high degree of acidity of the urine, a diminished renal output, large coated tongue and hepatic enlargement. The prime requisite to successful treatment is to recognize the cause of the disease and thus make the lithemic state the object of attack.

Gall-Stones.—The great frequency with which gall-stones are not diagnosed *intra vitam* is commented upon by H. FIEDLER (*Münch.*

med. Woch., Oct. 22, 1901). Of 93,000 patients examined, stones were noted in only 133, making 0.14 per cent., while on the other hand at autopsies fully 10 per cent. of the bodies are found to possess them if a careful examination of the biliary system is made. The Roentgen rays may be looked upon as a valuable diagnostic aid in the future, and already a number of excellent photograms have been published. Best results will always be obtained with the strongly calcareous stones, while the rarer ones consisting chiefly of cholestrin or bile-pigment can hardly be expected to throw a shadow. Concerning the origin of gall-stones, most authors are agreed that disease of the mucous membrane of the gall-bladder is the primary lesion and that the myelen and cholestrin liberated from the fattily degenerated epithelial cells form the nucleus around which successive layers will be deposited. The catarrh may be induced by the colon bacillus, which is often found in the bile when its outflow is impeded. The statement that gall-stones frequently follow typhoid the author cannot agree to, since he has found them only in two cases which came to autopsy and never had occasion to treat those that survived for attacks of colic. With reference to the real cause of the severe pains induced by the larger stones in their passage through the ducts, it is questionable whether an inflammation always exists and it is probable that obstruction alone is responsible for those sudden, severe attacks which rapidly yield to morphine and local application of heat. A complete relief from symptoms must never be expected when a stone has been discovered in the feces, since others are generally left behind which will make trouble unless a closure of the cystic duct or atrophy of the gall-bladder has occurred. Other points emphasized are the frequent absence of jaundice with cholelithiasis, the recurrence after operations, which amount to about 15 per cent., and the intimate relation of carcinoma of the gall-bladder and gall-ducts to stones. Concerning treatment the radical surgical methods are not always in place, though much harm has been done by delay.

Ethyl Bromide in Operations upon Adenoids.—In a discussion upon the desirability of a general anesthetic, and the kind to be used, in operations upon children for adenoid vegetations and enlarged tonsils, J. W. Gleitsmann (*Med. Rec.*, Nov. 2, 1901) recommends the almost invariable employment of some general anesthetic and especially ethyl bromide on account of its safety, its rapid action and few after-effects. It is much superior to either chloroform or the A. C. E. mixture. Ten grams are usually poured into an impermeable mask and after the first few whiffs the entrance of air is practically entirely excluded. Within two minutes the patient is fuly anesthetized and generally less than thirty grams are necessary to complete the operation. For operation the child is held in an upright position by assistants, the pharyngeal adenoids are removed first by forceps and then scraped with a Gottstein curette. The tonsillotomy may be done either before or after the removal of adenoids, but between operations the child's head should be lowered and the blood allowed to flow out. While operating there is usually a reflex spasm of the pharyngeal muscles and respirations are temporarily suspended. It is surprising how seldom any blood enters the larynx.

THERAPEUTIC HINTS.

Chronic Hydrocephalus.—In two cases of this affection Wm. Ewart and W. L. Dickinson (*Pediatrics*, Oct. 15, 1901) obtained complete evacuation of the ventricular fluid by tapping and allowing aseptic air to enter as the fluid was withdrawn. To accomplish this, in addition to the exit cannula and drain, a second cannula was provided with a sterile rubber tube the free end of which was connected with the tube of a small glass syringe plugged with cotton after the piston had been removed. This second cannula was inserted somewhat above the other, and too great rapidity of outflow was guarded against. In the first case eight tappings were carried out, the largest amount of fluid collected being fifty ounces. Each time there was considerable reduction in the size of the head and cessation of the pressure symptoms. There was sometimes a slight post-operative rise in temperature. The hydrocephalic cry gave place to a "baby-wail." The case is still under observation. In the second case there was no re-accumulation of fluid after the first tapping, though oozing continued for several days.

Surgery in Exophthalmic Goiter.—In an exhaustive review of operations for this condition, I. Balacescu (*Revista de Chirurgie*, Apr. to Sept., 1901) sums up in favor of total bilateral resection of the sympathetic nerve, including the three cervical ganglia. Of 19 cases so treated, 10 were cured, 5 much improved, 2 were failures, one died under the anesthetic, and one from an intercurrent disease. Simple section of the sympathetic as practised by Jaboulay in 8 cases, resulted in 2 cures, 5 improved, 1 death. Twenty-seven cases of partial resection of the nerve gave 9 cured, 11 improved, 2 failures, 5 died. A single case of stretching the nerve by Jaboulay was followed by slight improvement. Comparing the results of total resection of both sympathetics with partial thyroidectomy, the author finds that with the latter operation sudden deaths are numerous, failures more frequent, and the relief from exophthalmos, tachycardia, and nervousness not nearly so marked.

Pendulous Abdomen.—In the case of a loose, flabby, overhanging abdomen for which all known anti-obesity remedies had been tried unsuccessfully A. E. Spaulding (*St. Paul Med. Jour.*, Oct., 1901) made an elliptical incision on

each side of the median line, from just below the breasts to the center of Poupart's ligament. He removed the integument and fat six inches thick down to the abdominal muscle-sheath, and closed each of the wounds with twenty-five deep silkwormgut sutures. A marked improvement in the general condition has been noted during the two months which have elapsed since the operation.

Uterine Colic.—

℞ Ext. fl. hydrastis Canad.
Ext. fl. hamamelis Virg.
Ext. fl. viburn. prunif., aa 10.0 (℥iiss)
Ext. fl. piscidiæ erythrinæ 2.0 (℥ss)
Sydenham's laudanum .... 2.0 (℥ss)

M. Sig. Half to one teaspoonful in water, repeated if necessary three times a day.—Bossi in the "Revue d'Obstetrique et de Gynécologie."

Ovarian Opotherapy.—Fresh ovary taken by mouth has proven efficient in relieving the mental depression, insomnia, vertigo, hot flashes, palpitation, pelvic pains, etc., which sometimes follow removal of the ovaries. The raw ovary of the sheep, sow or cow should be obtained fresh every day, and it should be remembered that most butchers cannot tell an ovary from a gland. It may be taken by mouth, and as many women and girls object to eating ovaries if they know what they are, it may be necessary to have some member of the family disguise them. Ovaries may be dried without harm at 30° C. (86° F.), powdered, and mixed with bouillon or milk.—E. Vidal in *Le Progrès Médical,* Sept. 7, 1901.

Cæsarian Section.—This is not a difficult operation, writes J. W. Andrews (*St. Paul Med. Jour.,* Oct., 1901), and with present methods its mortality is not high. There is very little danger of troublesome hemorrhage. To ensure proper drainage a strip of iodoform gauze should be carried through the cervix, but not up into the body of the uterus, as this might excite contractions and endanger the line of stitches. Owing to the rapid involution of the uterus the stitches could become loose, but this risk may be avoided by a row of stitches through all the tissues except the mucous membrane, and a second row of closely-placed Lembert stitches making peritoneal apposition. Symphysiotomy is more difficult to perform, and not less dangerous. Craniotomy is generally an operation of last resort, is clumsy and not devoid of danger, and the child is not saved.

Glaucoma.—The medical treatment consists of myotics, such as eserine or pilocarpine, as these lessen tension. They should never be used in greater strength than one per cent.; eserine should be dissolved by preference in oil, as it then does not undergo change and does not cause painful spasm; the best salts of pilocarpine are the nitrate and salicyate. The myotics are aided by leeches to the temple, hot compresses, purgatives, etc., but these means are all of temporary benefit only, and are not curative, so recourse must be had to paracentesis, sclerotomy or iridectomy. At the onset of acute glaucoma, order escerine instillations, three times a day, leeches, hot mustard bath, etc. Never employ atropine. If the tension is so great that the anterior chamber is obliterated, precede with sclerotomy or better with puncture of the vitreous by Graefe's knife. Operation is effective only in acute or subacute glaucoma. Hemorrhage and tumor should be ruled out before operation. With tumor the tension presents extensive fluctuations. Iridectomy is generally good if performed early; if late it may lessen the pain and tension without improving vision; in the aged it is unfavorable. In every case after the operation, myotics must be continued for months or years, for they are of benefit even though the iris sphincter is not intact. In simple chronic glaucoma, operation is useless or harmwul, iridectomy sometimes being followed by rapid diminution of vision. The severe cases require eserine, but in mild cases pilocarpine will do. Quinine sulphate and potassium iodide may be given internally, and all medication must be continued for a long time.—F. Terrien in *Le Progrès Médical,* Aug. 24, 1901.

Herpes Zoster.—

℞ Cocainæ hydrochlor. 0.12-0.24 (gr. ij-iv)
Morphinæ hydrochlor. ..... 0.03 (gr. ss)
Sodii chlorid. ..... 0.24 (gr. iv)
Aq. dest., q. s. ad .. 120.0 (℥iv)

Use by hypodermic injections in the intercostal spaces, near the exits of the nerves.—Scharff (*Le Progrès Médical*).

Favus.—

℞ Balsam peruv.
Ac. salicylici
Resorcin, aa ..... 1.3 (gr. xx)
Sulphur præcip..... 4.0 (℥i)
Lanolin
Vaselin
Adipis benz. aa ..... 7.5 (℥ij)

M. ft. ungt. Sig: Apply every night.—Besnier in *Le Progrès Médical.*

Itching in Measles and Scarlatina.—

℞ Ac. carbolici ..... 0.75 (♏ x)
Ol. olivæ, ad ..... 30.0 (℥i)

—Goodhart in *Indian Medical Record.*

Liebreich's Ointment for Scabies.—

℞ Liq. styracis ..... 15.0 (℥ss)
Ol. olivæ ..... 30.0 (℥i)

Sig: Rub well in parts, night and morning.

Toast.—The object of making toast is to convert the starch into dextrin, giving the starch its first step toward digestion and the agreeable toast flavor. The bread must first be thoroughly dried, or it cannot be brought to 400° F., the dextrinizing temperature. Toast is therefore crisp to the center and a golden brown. It can be easily broken, is quickly moistened by the saliva, and, what is an advantage with invalids and children, it requires mastication.—H. V. Sachse in "How to Cook for the Sick."

The Medical News.

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SATURDAY, NOVEMBER 16, 1901.

FUNCTIONAL DISTURBANCES OF DUCTLESS GLANDS.

At the October meeting of the Harvard Medical Society, an account of which will be found in our society proceedings for this week, Dr. John G. Perry discussed a series of cases the symptoms of which had been considered as rhumatic in origin, but as the result of the therapeutic test were evidently due to functional derangement of the thyroid gland. This represents an idea in nosology that has not as yet received its proper share of attention.

While in theory it is not hard to recognize the possibility of functional derangements of ductless glands, the effect of these organs under pathological conditions is so recent an introduction to practical medicine that only complete cessation of function, as induced by serious organic lesions, has been considered worthy of careful study. There seems no good reason to doubt, however, that especially in predisposed individuals—that is, in those who are naturally possessed of ductless glands only just capable of maintaining sufficient function to preserve health, some systemic disturbance might easily decrease such function and give rise to anomalous symptoms.

In Dr. Perry's cases he assumes that enduring inhibition of thyroid secretion was brought on by fright or intense emotional strain. In all a definite uniform symptom-complex was present. Four symptoms were constant; a painful condition of the joints resembling the neuro-arthropathy described by the late Charcot, headache, a weak and rapid heart, and in women a distinct tendency to menorrhagia. In practically all of his cases Dr. Perry found the usual depression above the sternum obliterated, as if there were enlargement of the lower median portion of the thyroid gland, although there was not true goiter nor exophthalmos. The symptomatic condition was rapidly improved by the administration of from ten to twenty grains of thyroid extract per day. The patients, as a rule, developed no symptoms of intolerance for the remedy. In one series of cases three generations of the same family were involved and the lowered functional activity of the thyroid was probably due to hereditary influences.

In recent years more and more attention has been given to such incomplete types of disease as have been touched upon by Dr. Perry. Atypical abortive cases of Basedow's disease are not rare. Without the exophthalmos or the goiter there may be recurring intervals of rapid heart action, with some muscular tremor and intestinal derangement, usually alternating constipation and diarrhea that betray the character of the disease. These affections are often ascribed to anomalous neurasthenia.

Rheumatism and neurasthenia are words that may be readily used to cover the disinclination to search farther for the causes of annoying symptoms. Another affection that in its incipiency may easily be placed in the category of neurasthenia is arteriosclerosis. The precocious degeneration of arteries often gives that tendency to widely distributed symptoms with multiform discomfort that is presumed to be the principal pathognomonic sign of nerve weakness or hypochondriasis. Joint structures very early give discomfort if there is diminished blood-supply or if the presence of alien substances in the circulation disturbs the normal metabolism of their tissues, which, because of their delicate adjustment and frequent use, require to be kept at a certain acme of nutrition.

There is no doubt that the term rheumatism has been very much abused. Dr. Perry's group of cases is of special interest for the reason that it calls renewed attention to the necessity for

more discerning diagnosis in many affections too easily denominated rheumatic. The therapeutics of atypical and chronic rheumatism remains one of the opprobria of medicine and a rich field for the quack and the proprietary remedy, mostly because of the failure to differentiate accurately from each the various affections that are unwarrantably grouped under the heading rheumatism because they present as a prominent symptom discomfort or pain in the use of the joints. A confirmation of Dr. Perry's observations by other clinicians will give us a noteworthy advance in nosology in the recognition of functional disturbances of ductless glands as distinct entities, and will besides achieve that eminently desirable object of adding to our therapeutic armamentarium.

CHRISTIAN SCIENCE A BUSINESS.

CHRISTIAN science, according to a Nebraska Supreme Court decision (Buswell *vs.* the People) is not a religion when practised for the purposes of gain. Ezra M. Buswell, who had never had a medical education and had not received a certificate, was convicted of violating the Medical Practice Act. Buswell, a believer in "Christian science," to whom sick people came, would put his hands upon them and urge them to believe that they were cured. After prayers and exhortation the afflicted persons would sometimes declare that they were cured and express satisfaction with the treatment. It was shown that Buswell frequently received compensation for this treatment. Buswell did not deny that he had applied the "principles" of "Christian science" in treating sick persons, but defended himself on the ground that his doings were simply religious acts, and that no law could be passed interfering with the enjoyment of liberty in religious matters. The Supreme Court held that neither the pretense of worship nor the performance of any other duty should exonerate the defendant from the punishment attached to the violation of the law.

The Court quoted several verses from the eighth chapter of the Acts of the Apostles in which Simon, the Samaritan sorcerer, is rebuked for endeavoring to purchase the power of healing which the Apostle Peter possessed. "And when Simon saw that through laying on of the Apostle's hands the Holy Ghost was given, he offered them money, saying, 'Give me also this power that on whomsoever I lay hands he may receive the Holy Ghost.' But Peter said unto him, 'Thy money perish with thee because thou hast thought that the gift of God may be purchased with money.'" The incident of the receiving a reward by Gehazi from Naaman, after the latter had been cured by the prophet Elisha, and his consequent punishment are quoted from II. Kings v, 26, 27. "The leprosy therefore of Naaman shall cleave unto thee and unto thy seed forever. And he went out from his presence a leper as white as snow."

In many States, however, noticeably in Illinois, after the repeal of the excellent Medical Practice Act (under which the late Dr. J. H. Ruch achieved such marked success), "Christian science" was given a status which annulled all the good effects of the principle enunciated by the Nebraska Supreme Court.

TUBERCULOSIS FAKIRS.

THERE is rarely a stirring medical subject discussed, but the quacks, who are always alert to turn popular interest to their own advantage, begin to do a little song and dance on their own account.

The announcement made by Koch at the London Congress, seeking to modify the widely-accepted view that tuberculosis can be contracted by drinking the milk or eating the flesh of tuberculous cows, has given the tuberculosis fakirs a brass band and an audience. This is their opportunity. The fakirs are so-called physicians who perform startling experiments, in the daily press, that outrival Koch. Reporters' interviews and testimonies of patients all contribute to swell the interest, and the subject being legitimately started by the London Congress bears the stamp of respectability.

One man in New York, claiming to be a homeopathic practitioner, announces in the reading columns of one of the best dailies that he has a cure for consumption. He uses a mysterious preparation of his own, which is said to be a preparation of cacodylate of soda, which is being extensively tried in the hospitals abroad. For each treatment of this patent charm he is said to charge $500.00, but so charitable is this benefactor of the race that the newspaper accounts say that he is thinking of giving it free to the public.

The Medical Society to which he belonged has expelled him, and the hospital in which he says he performed his experiments has asked his resignation and has declined to acknowledge or certify any of the favorable results he claims. These formal denouncements in medical

circles do not prevent him from using the name of the hospital on his circulars, or of representing himself as being an interpreter of Koch and the spirit of modern science. With prospective philanthropy on the horizon, he may continue to charm the public into giving him large sums for a well-known and questionably useful remedy for some time to come.

Another method of diverting the general interest in tuberculosis into the special channel of self-aggrandizement is the somewhat startlingly advertized experiment of a certain Brooklyn physician who has inoculated a patient with tuberculous matter from a cow. The attitude is that of the brave man and the noble woman who risk, the one his reputation and the other her life, for the sake of scientific truth.

That the physician promises to cure the patient if she is inoculated and that her faith in his power is sufficient to enable her to calmly take the risk are, we feel, no justifiable basis for the proceeding. No sure cure has as yet been found for tuberculosis, and a man's faith in his own power, no matter how convincing it may be to his patient, cannot convince us that the woman is sensible in taking the risk acquiring a disease for which no one, save a fraud, can guarantee a cure.

That the advertizing element in this case may be purely accidental does not lessen the harm that such discussions bring to those that are in the incipient stages of the disease. A cure! a cure! is their cry, and so long as the public is looking for a cure our task in attempting to save their lives by the patient upbuilding of strength through diet and climate is hopeless.

Success in advertising quackery seems to be a very uncertain matter, dependent neither on extensive capital nor on skill in "flarehead" advertisements. A "rupture cure" quack who had organized a syndicate and plastered the prominent daily journals east and west with advertisements has just confessed in the bankruptcy court to liabilities of $58,000 and no assets. He secured the usual National Bank endorsement by investing in National Bank stock, and had wrecked two National Banks by inducing them to discount notes of the "no cure no pay" contract type. Many a National Bank in the West has had to pass to profit and loss thousands of dollars in similar notes. At one time, in 1893, an Indianapolis bank was nearly dragged into a prosecution for misuse of the mails through its discounting such notes for a local "Institute." The "note" is in the semblance of contract not to pay unless cured, but has been held to be a promissory note. The business "acumen" shown in the discounting of such notes and in loans on patent medicine and "medical institute" stock underlay the downfall of many a Southern and Western National Bank in the era between 1893 and 1899.

ECHOES AND NEWS.

NEW YORK.

Craig Colony Prize Awarded.—At a meeting of the Board of Managers of Craig Colony, held at Sonyea, N. Y., on October 8, 1901, the report of the Prize Committee, consisting of Drs. G. W. Jacoby, Pearce Bailey and Ira Van Gieson, was approved, and the prize of $200 was awarded to Dr. Carlo Ceni of Pavia, Italy. The successful essay, the title of which is "Serotherapy in Epilepsy," will shortly be published in the Medical News. As announced in the News of October 19th, the prize is again offered for universal competition.

Jewish Hospital for Brooklyn.—Articles incorporating the Jewish Hospital of the Borough of Brooklyn were filed November 9th, according to the *Evening Post,* with the Secretary of State. Medical and surgical aid will be furnished without regard to creed or nationality. The directors include Aaron Aaron, Jacob Brenner, Jacob Fuhs, M.D., and Nathan S. Jonas.

New York State Medical Association.—A special meeting of the Fifth District Branch of the New York State Medical Association will be held at the Palatine Hotel, Newburgh, N. Y., on Wednesday afternoon, November 20th. Important papers will be presented by Dr. John B. Deaver of Philadelphia and Drs. Charles E. Quimby and William Rice Pryor of New York. These papers will be followed by discussions. A large attendance of physicians is anticipated from among the members residing in the Fifth District Branch, which includes the Counties of Dutchess, Kings, Nassau, New York, Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Sullivan, Ulster and Westchester. For the accommodation of the physicians in Manhattan who wish to attend this meeting, a special car will be attached to the 11.50 a. m. train, on the West Shore Railroad, Weehawken Ferry. Luncheon will be served at Newburgh at 1.45 p. m. The meeting is called for 2.30 p. m. All physicians are cordially invited to attend.

New York State and County Civil Service Examinations.—Open competitive examinations for positions in New York State and County Departments and Institutions will be held about December 7, 1901, in Albany, Amsterdam, Auburn, Binghamton, Buffalo, Elmira, Hornellsville, Ithaca, Jamestown, Kingston, Lockport, Malone, Newburg, New York, Og-

densburg, Olean, Oneonta, Plattsburg, Poughkeepsie, Rochester, Sandy Hill, Syracuse, Utica, and Watertown, for the following positions: Assistant, Antitoxin Laboratory, Department of Health, $720; open to women only. Assistant Bacteriologist, Department of Health, $500 for half time; open to licensed physicians only. Director of Pathological Institute, State Commission in Lunacy, $5,000; open to non-residents subject to the provisions of Regulation X. Physician, Third Grade (including Junior Physician), State Hospitals, usual salary $900 and maintenance; open to licensed practitioners who have had at least one year of hospital experience. Applications for these positions must be filed in the office of the commission on or before noon of December 2d.

Sale of Harmful Drugs.—At a meeting of the Society of Medical Jurisprudence last week, Dr. W. H. J. Sieberg read a paper on "The Adulteration of Drugs and the Sale of Harmful Proprietary Medicines." He said that drugs were adulterated and substituted much more extensively and with more serious effects than was generally supposed. "The crime committed against those stricken with disease is so abominable," he said, "that I cannot properly characterize it. I believe the State should compel all proprietary medicines to be submitted to a board of expert chemists and botanists who should determine whether a dangerous percentage of poison was contained as an ingredient and if so refuse to allow its sale. Cupidity is to be found in the drug trade as well as in other places," he said. He found that both adulteration and substitution were largely practised in this city and State. In speaking of the unrestricted sale of poisons he said that a "purely vegetable tonic recommended for inebriates" contained 41 per cent. of alcohol. Many such proprietary medicines, he declared, contained poisons the sale of which if they were not sold in sealed packages would send the druggist to jail. Cough medicines contain opium and morphine in unknown quantities; face lotions, warranted purely vegetable and harmless, poison the user with lead or mercury. The druggist sells all these, and there is no law to stop him because he is supposed to be ignorant of the contents of the packages.

Meeting of Charities and Correction Conference.—The second New York State Conference of Charities and Correction will be held in New York November 19 to 22. The membership of the conference is made up of persons who are interested in public or private charitable or correctional work in the State. The topics for discussion are grouped in several departments under the charge of the following committees: "Hospitals, Dispensaries, and Nursing," Dr. Stephen Smith, New York, Chairman; "Sanatoria for Consumptives," Dr. John H. Pryor, Buffalo, Chairman; "The Mentally Defective," Dr. A. E. McDonald, New York, Chairman; "The Care of Defective, Dependent, Delinquent, and Neglected Children," Dr. F. Park Lewis, Buffalo, Chairman; "The Institutional Care of Destitute Adults," Mr. Clarence V. Lodge, Rochester, Chairman; "The Treatment of the Criminal," the Hon. George McLaughlin, Albany, Chairman; "Politics in Penal and Charitable Institutions," Mrs. Charles R. Lowell, New York, Chairman; "The Care and Relief of Needy Families in their Own Homes," Mr. Frank Tucker, New York, Chairman; "Improved Housing," Mr. Edward T. Devine, New York, Chairman.

Manhattan Dermatological Society.—A regular meeting was held on Friday evening, November 1, 1901, at the residence of Dr. R. Abrahams. Dr. Wm. S. Gottheil presided.

Dr. R. Abrahams presented a child of eight weeks with an *acute generalized seborrheal eczema.* The lesions were macular and diffuse; the palms and soles were free. Dr. J. Sobel agreed with the diagnosis. The lesions were too highly inflammatory for syphilis and stigmata of that disease were wanting. Dr. Oberndorfer excluded syphilis. Dr. Gottheil remarked that macular lesions in seborrheal eczema are unusual. Dr. J. Sobel showed a child of two and a half years with a *chronic papular urticaria* of the face, arms, thighs, buttocks and legs; the lesions had existed with periods of remission for a year and a half. Itching was intense, the inguinal glands were enlarged and subsequent infection of some papules by scratching had given rise to pustules. The interdigital regions were free. Such cases were frequently considered prurigo mitis.

Dr. Bleiman agreed with the diagnosis, excluding both prurigo and scabies. Dr. L. Weiss believed that such cases were better termed strophulus infantilis (Blaschko). This condition is persistent, obstinate and often the forerunner of prurigo. He is of the opinion that this case will eventually develop prurigo. Dr. Oberndorfer inclines toward a diagnosis of chronic papular urticaria. Dr. Gottheil does not think that scabies can be excluded. Dr. Abrahams considers it chronic papular urticaria. Pilocarpine in daily doses of gr. $^1/_{12}$ is advised.

Dr. Bleiman presented a boy of eleven years with *prurigo.* Lesions on the extensor surfaces began at two years of age and have persisted since, never disappearing entirely, but improving in the summer and spring. Scalp is free, but face shows papular lesions. Prurigo buboes are absent. Treatment has been given for a long time. Dr. Geyser remarked that the lesions may be the remains of a prurigo. Dr. Sobel thought that in view of active treatment a positive diagnosis at present could not be made. He would prefer to see the lesions in the untreated stage before venturing a diagnosis of prurigo. Dr. Oberndorfer considered it a chronic papular eczema; such cases often last for many years, one of his own being of twelve years' duration. Dr. Weiss stated that this was a positive case of prurigo. The existence of the lesions from infancy and the involvement of the extensor surfaces point toward that diagnosis. The skin is infiltrated, and

while buboes are absent this does not speak against it. Dr. R. Abrahams said that the picture was not one of prurigo. In nine years typical lesions ought to exist all over the body. He considers it chronic eczema. Dr. Gottheil has seen the patient when the flexor surfaces were affected; he considers it chronic eczema.

Dr. Gottheil presented a woman of sixty-four years with *rhinoscleroma* of the nose and lip. The alæ nasi had the hard, cartilaginous, ivory hardness so characteristic of this condition. The hard palate was also involved. Despite the statements in books this case shows ulceration. The possibility of other parts being involved was mentioned. Dr. Geyser remarked that radiotherapy would only hasten the end of the patient. Dr. Sobel had previously observed this case in the service of Dr. C. W. Allen. In another case seen in the same service the lesion had encroached upon the postnasal space to the larynx, necessitating a tracheotomy. Ulceration certainly occurs. Rhinoscleroma may occur primarily in the tonsil, in which case differentiation from chancre and cancer becomes necessary. Dr. L. Weiss remarked that ulceration may occur when the vitality of the tissue is encroached upon by pressure.

Dr. L. Weiss presented a case of *keratosis follicularis* of the forearms.

Dr. Oberndorfer presented a young man with multiple lesions of *molluscum contagiosum of the penis.* The situation was interesting and rare. In children the lesions often become infected and cause pustulation. The condition is both auto- and hetero-inoculable. Dr. Bleiman has observed similar cases in children, but always with other lesions on the face, chin or body. Dr. R. Abrahams has seen the condition in several members of a family. Dr. Gottheil observed one case in which numerous mollusca were situated on the penis and scrotum. Subsequent infection may give rise to furuncular lesions.

Dr. R. Abrahams presented a man of fifty-seven with *atrophia cutis propria* of both lower extremities. Forty years ago eczematous lesions were observed in the popliteal space; later similar lesions appeared at the ankle. This was followed by atrophy, varicose veins and ulceration. Dr. Sobel stated that at first scleroderma suggested itself. He considers it an atrophy due to a tropho-neurosis. Dr. Oberndorfer considers it a clear case of atrophia cutis propria. It now presents atrophy of the cutis propria, varicose veins, and ulceration. There is in all probability no relationship between the varicose veins and atrophy, otherwise atrophy of the skin would be more commonly observed. It is a tropho-neurosis of some kind. Dr. Gottheil has observed but one similar case. In this case the erythema at the edges points to an inflammatory condition.

Dr. Gottheil showed photographs of cellulitis of the lip, secondary sarcoma cutis, generalized lichen planus, lichenification in old eczema, erythrasma of the buttocks, dysidrosis, and erythema multiforme.

PHILADELPHIA.

University of Pennsylvania.—At the trustees' meeting last week the following changes were made in the faculty: Dr. Charles Mills was appointed clinical professor of nervous diseases, vice Dr. Horatio Wood, resigned; Dr. W. G. Spiller, assistant professor of nervous diseases, and Dr. Charles Burr, professor of mental diseases.

Mutter Lecture.—The Committee on the Mutter Museum of the College of Physicians of Philadelphia wish to announce that the Mutter lecture for the year 1901 will be delivered on Tuesday, December 3, 1901, at 8 p. m., in the Hall of the College of Physicians. Dr. Harvey Cushing of Baltimore will deliver the lecture, the subject being "Some Experimental Observations Relative to the Surgery of the Nervous System."

Testing of Diphtheria Antitoxin for the Tetanus Bacillus.—In view of the deaths in other cities from tetanus following the use of infected diphtheria antitoxin, the Board of Health has taken measures to guard against such an occurrence in this city. Orders have been issued that all the antitoxin supplied by the city shall be tested to determine the presence or absence of the tetanus bacillus.

Increase in Almshouse Expenses.—The estimates for maintenance for the Philadelphia Almshouse are about $100,000 more for the coming year than for the past one. Part of this is due to proposed additions to the force of employees, but the greater part is caused by an increase in the price of provisions and an increased population. The sum of $365,000 is asked for new buildings, including a pavilion for consumptives, a clinical amphitheater, obstetrical and gynecological ward, pavilion for nervous diseases, and a pavilion for general medicine.

Miners' Petition for New Hospital.—A committee has been chosen by a meeting of miners at Pine Grove to petition the Legislature for the establishment of a miners' hospital on Broad Mountain, ten miles from Pine Grove. It is claimed that a hospital is needed for that section comprising portions of Lebanon, Schuylkill and Dauphin Counties, which are so far removed from the hospital at Ashland that fatalities result from accidents when the patients could be saved by more immediate hospital facilities. The population of the section in question is about 50,000.

Dr. Osler a Guest of the College of Physicians.—Dr. William Osler was the guest of honor at the meeting of the College of Physicians, November 6th. Dr. Osler gave a short sketch of Sir Thomas Brown and his writings, the purpose of the sketch being to give a brief history of the man and his productions and "to introduce to their final resting place" an almost complete collection of the various editions of the books, which are ultimately to become the property of the College. Lantern slides of buildings, etc., associated with the life of Sir Thomas Brown, and of the title pages of the various edi-

tions of his writings, were shown. Sir Thomas was characterized by Dr. Osler as being one of the three great *littérateurs* of the medical profession.

To Protect Rivers from Pollution.—The Supreme Court of the State has recently handed down a decision which is believed to be of great importance to the cities of the State. The suit in question was that brought by a flour-mill company against the Lehigh Coal and Navigation Company, which caused a loss of water power by filling the stream above with dirt and refuse. The Court maintains: "It is not to be doubted that an injunction is the appropriate remedy for the prevention of trespasses and nuisances, which, by reason of the persistency with which they are repeated threaten to become of a permanent nature." It is believed that this ruling will have considerable influence in deciding the litigation brought by City Solicitor Kinsey to protect this city's water-supply from contamination by the filth which industrial establishments and coal companies persist in dumping into the Schuylkill River.

Philadelphia's Filtration Plant.—Bids have been asked for constructing what is said to be the largest filtration plant in the world. It is to be located at Tordesdale and receive its supply from the Delaware River. The design is for fifty-five filter beds, with a capacity of 100,000,000 gallons of water daily, so placed that fifty-five more can be ultimately added. The cost will be in the neighborhood of $3,000,000. West Philadelphia and some of the northern suburbs will still continue to receive their supply from small filtration plants using Schuylkill water. The beds will not differ in construction from those already in use except that no sedimentation basin will be provided, the clearness of the Delaware water making such preliminary work unnecessary.

Pseudoleucemia and Lymphatic Tuberculosis.—At the November meeting of the College of Physicians Dr. Joseph Sailer reported four cases of apparent pseudoleucemia due to lymphatic tuberculosis, or Sternberg's disease. Three of the cases have proven to be such by autopsy. He believes that this is the condition in all the cases of so-called Hodgkin's disease. In the discussion Dr. Osler said that the term Sternberg's disease was not used to include all cases of lymphatic tuberculosis. Tuberculous adenitis has long been recognized as a distinct affection. What Sternberg has shown is that certain cases which clinically and anatomically are those of Hodgkin's disease are by inoculation experiments proven to be tuberculous. Dr. Osler holds that there is a true Hodgkin's disease apart from these cases of Sternberg's description. Dr. John H. Musser stated his belief that Hodgkin's disease in the larger number of cases is lymphatic tuberculosis. Dr. Alfred Stengel said the matter was reduced to the question of whether there was a disease related to leucemia apart from lymphatic tuberculosis. He reasons that if leucemia is not tuberculous in nature, then there is a true Hodgkin's disease. He believes the attitude of the profession should be that of expecting more proof from those who say that Hodgkin's disease is tuberculous in nature. Dr. James Tyson said that the cases reported by Dr. Sailer showed an absence of superficial gland involvement, as in the groin, axilla, etc., which is usually seen in cases of Hodgkin's disease. Dr. Sailer stated that the glands in these cases were not softened nor in any other way like those in general lymphatic tuberculosis. He called attention to a recently reported case of leucemia which was tuberculous in nature. He thinks the burden of proof lies with those who hold to the opinion that there is a true Hodgkin's disease. The weight of evidence is against that view.

CHICAGO.

State as Antitoxin Maker.—Dr. Herman Spalding favors the State control and manufacture of antitoxin in view of the recent deaths from its use in St. Louis. He also suggests that the State supply the serum at cost, as the most effective way in which the poorer grades of the article may be driven out of use. There is little doubt that the recent deaths caused by impure antitoxin in St. Louis would not have occurred had the serum used been properly manufactured and tested. Dr. Spalding says there has been a large profit in the manufacture of the article, and many cheap grades have been placed on the market. If the States would take up the manufacture of the serum, say at their State universities, and provide for the sale of the same at cost, he thinks it would solve the whole problem. Every State should enact such a law and enforce it. The law should provide for State supervision of the manufacture of the article, which should be prepared by the best chemists at the universities and its purity assured.

Gift of Two Beds to St. Luke's Hospital.—Edward Finley and wife have conveyed real estate to the value of $10,000 to St. Luke's Hospital, and in return the Hospital is to endow two new beds to be called the "Edward and Dorcas A. Finley Beds." Mr. and Mrs. Finley are to have the right of selecting patients for the beds whenever they are vacant, and if occupied they are to have the preference over any other applicants. On their deaths, the right to make nominations is to go to some person designated by them.

Swedish Award to Dr. Senn.—News has been received from Stockholm that among the persons whose names are under consideration by the committee in charge of the award of the Noble Prizes are Dr. Nicholas Senn of this city and Thomas A. Edison of New York. Dr. Senn will be in the group of medicine and surgery and Mr. Edison in the group of chemistry. The prizes will be awarded on December 10th, and are five in number—physics, chemistry, medicine, literature, and promotion of peace.

Investigation of Insane Hospital at Dun-

ning.—This institution is undergoing an investigation at the present time. Some of the charges that were made may be epitomized briefly as follows: That by reason of the lack of heating in the cold days of early October, half a dozen insane patients became sick with pneumonia and one death resulted; that several hundred insane patients are caused great suffering by being compelled to walk in cold weather from the detached wards to the main dining-room, although their clothing consists of nothing but overalls, thin jackets, slippers and straw hats, without any underwear or overcoats. The distance is five thousand feet, and the trip must be made for each meal, even when the thermometer is below zero. That the supply of clothing and bedding has been allowed to fall so low that even inside the wards there is often great suffering. That there are no proper facilities for caring for the sick, and that there is not one trained nurse in the institution. That the drug supply is kept down to the lowest limit, so that often needed remedies cannot be given when the physicians prescribe them. That the food, although of good quality, is carelessly cooked and often spoiled in the kitchen. That while the exposed portions of the wards for the insane are scrupulously clean, any amount of filth is permitted where it will not be noticed, and that, especially in bathing the patients, sanitary precautions are not taken. That the consumptive patients are allowed to mingle with the insane, and that a number of cases of tuberculosis have developed among the latter because of this contact. It will be interesting to watch the outcome of this investigation.

Traffic in Cadavers.—Dr. F. M. Schoenleber has been arrested on the charge of shipping dead bodies from this city to other States. He will be prosecuted by the State Board of Health under the statute forbidding the removal of human remains from the State without a permit from the proper health officials.

Not Guilty.—On October 31st Judge Tuley instructed the jury to bring in a verdict of not guilty in the case against Dr. Arthur R. Reynolds, Commissioner of Health, and Matthias Brand, formerly a member of the Board of Health, in the suit of Mrs. Mary E. Moore, who sought to recover $25,000 damages on account of alleged detention in the isolation hospital.

Aneurism of the Aorta Simulating Mediastinal Abscess.—Dr. Otto T. Freer presented this case to the Chicago Medical Society, November 6th. The patient was a negro, aged forty-two years. He gave a history of pain under the sternum, on the left side of the thorax and between the shoulder-blades, which had existed since about the first of July. The patient suffered from constant dyspnea, which began suddenly in August after a paroxysm of coughing. A few days later he coughed up a little blood. Since this time the cough and profuse expectoration have been, with the dyspnea, the main features of the disease. Observation of the patient at the Presbyterian Hospital for two months showed but one day when he had a temperature above the normal. The dyspnea was constant, but varied in degree and became alarming when there were paroxysms of coughing, suffocation often seeming imminent. Examination showed dulness under the manubrium sterni and on either side of it. This area of dulness extended downward until it merged into that of the heart. The apex beat was displaced downward to the sixth interspace. Tracheoscopy with the aid of sunlight showed a narrowed place in the trachea just above the bifurcation, while the windpipe was seen to be pushed over to the right. There was no paralysis of the recurrent laryngeal nerve nor any other symptoms of nervous compression, but some dilatation of the veins of the face, neck and arms indicated moderate compression and stenosis of the superior vena cava. The continued expectoration of large amounts of material that was more purulent than mucous in character, the freedom of the other intrathoracic organs, with the exception of the trachea and vena cava, from pressure, together with the great degree of the tracheal stenosis, made it seem probable at first that the compressing mass was small, intimately connected with the trachea and most likely an abscess of the mediastinal flamed its wall and that was discharging into its glands that had perforated the trachea, had inlumen.

The absence of fever, marked improvement resulting from rest in bed, the severity of the pain, the unvarying character of the symptoms during the long period of observation and especially the shadow characteristic of aneurism shown in the radiograph, finally lead to the adoption of the diagnosis of aneurism of the aortic arch. Further proof of its existence was furnished by the appearance later of distinct pulsation in the jugular. Bruit and tracheal tugging were absent.

Secondary Tuberculous Cystitis Colli.—At the same meeting Dr. L. E. Schmidt reported a case, the patient having been presented to the Society four months previously. He suffered from frequent urination both day and night, with tenesmus. Urine was very turbid. Frequently had terminal hematuria; constant loss in weight, appetite, and gradually became weaker, until he was finally obliged to quit work and confine himself to bed. Rectal examination revealed a nodulated prostate, and the secretion from here showed tubercle bacilli. On cystoscopic examination a secondary tuberculous cystitis colli was diagnosed. Local treatment of prostate, both per rectum and urethra, was made, general constitutional treatment instituted, and many tubercles around the internal ureteral opening and within the trigonum were cauterized with the aid of the Kolischer cystoscope. The cystitis colli has almost disappeared, likewise the symptoms, and the patient has gained thirty-one pounds in weight. Dr. Schmidt reported two other interesting cases.

GENERAL.

Russia and its Physicians.—The number of male physicians in Russia is 14,784; that of female physicians is 624, but it will soon be larger, as there were last year 869 female students in the Medical Institute for Women.

Indian Territory Medical Association.—The next meeting will be held at Muscogee, Indian Territory, the first Tuesday and Wednesday in December.

Consumption Cars.—In consequence of the increasing demands upon the Western and the Southern railroads for transportation for consumptives, the Transcontinental Passenger Association has prepared a plan, for the consideration of all the railroads, looking to the provision of a special consumption car, or ward, on each train. This subject will be acted upon at a meeting of the general passenger agents to be held in St. Louis on November 19th.

Church Hill Medical Society.—The program for the winter of 1901-'02 is as follows: "Pneumonia in Infancy and Childhood—Its Recognition and Treatment," by Dr. Garcin; "Broncho and Lobar Pneumonia in the Aged—Recognition and Treatment," by Dr. Parker; "Pleurisy—Its Varieties, Recognition and Treatment," by Dr. Blankingship; "Croup, Simple and Membranous —Recognition and Treatment," by Dr. Beazley; "Acute Rheumatism in Childhood and Adults—Its Symptoms and Treatment," by Dr. Virginius Harrison; "Acute Tonsilitis—Varieties, Symptoms and Treatment," by Dr. Barksdale; "La Grippe, Complications, Varieties and Treatment," by Dr. St. J. Oppenheimer; "Neuralgia, Varieties, Recognition and Treatment," by Dr. Gay; "Acute Bronchitis—Recognition and Treatment," by Dr. Cosby; "Diphtheria—Recognition and Treatment," by Dr. C. W. Massie; "Measles—Diagnosis and Complications, and Treatment," by Dr. Hord; "Chicken-Pox—Diagnosis and Treatment," by Dr. Collins.

New Hospital Planned by St. John's Guild.—The thirtieth annual meeting of St. John's Guild was held Tuesday evening, November 12th, at the Berkeley Lyceum. A general review of the work of the past year appeared in the reports of the various officers. It was announced that after a long-continued investigation into the needs of New York for a convalescent hospital, the trustees have decided to establish such an institution on the Guild's property at New Dorp, S. I. The hospital will be open the entire year for the care and treatment of women and children during convalescence. Funds sufficient to carry out the idea are not yet in the hands of the trustees, but tentative plans have been prepared, and were illustrated by stereopticon at the meeting last night. They call for fireproof buildings, specially adapted to the purpose, which will take the place of the frame building now used as a summer hospital.

Sells Diplomas to Midwives.—Dr. Charles P. Kreizer, who has been arrested repeatedly for being concerned in suspicious schemes connected with the practice of medicine, was summonsed to Jefferson Market Police Court November 12th by Agent Agnew of the Children's Society, who is also a Board of Health Inspector. Inspector Agnew told Magistrate Meade that Kreizer was president, faculty and board of examiners of the "Columbia College of Midwifery," which had one room on the ground floor of a tenement at 333 West Thirty-fourth Street and a clinic in equally humble quarters at 242 West Thirty-third Street. Women anxious to become midwives were induced to take a "course" of three hours' weekly instruction for three months and to pay as high as $100 for an elaborate diploma with an impressively large seal. Kreizer could not be charged with any specific fraud and was discharged.

The New York Academy of Medicine.—A stated meeting will be held at Hosack Hall, Thursday evening, November 21st, under the auspices of the Section on Medicine. The following program is planned: "Some Remarks on the Diagnosis of Cirrhosis of the Liver," by Dr. James C. Wilson of Philadelphia; "The Operative Treatment of Ascites in Cirrhosis of the Liver, by Dr. George Emerson Brewer of New York; general discussion by Drs. F. Tilden Brown, Morris Manges, George L. Peabody, Beverley Robinson, Andrew H. Smith, and others. These papers will appear in the MEDICAL NEWS.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, November 2d, 1901.

REOPENING OF THE MEDICAL SCHOOLS—DECLINE IN THE NUMBER OF ENTRIES—THE MEDICAL SOCIETIES — INOCULATION AGAINST TYPHOID FEVER—THE HEALTH OF THE KING—DIAGNOSIS IN ABSENTIA.

THE reopening of the medical schools in October used not many years ago to be made the occasion for a ceremonial display of some kind intended to impress the newly-captured neophytes. The chief feature in the "function" was an inaugural address in which the orator rhapsodized to the best of his power on the nobility of the medical profession and gave much good advice to the students. These homilies were for the most part so dull that the preacher might have been excused if he had gone to sleep in delivering them, as the Duke of Devonshire is said to have done over one of his own speeches. Sometimes, however, what dramatic critics call "comic relief" was provided when a man who, it was known, would stoop to pick guineas out of the gutter unctuously denounced the pursuit of filthy lucre and urged his guileless hearers to look upon the practice of medicine as a priesthood of philanthropy. Sometimes the orator made a peacock-like display of borrowed—or it might be, purchased—feathers of

classical erudition. A presidential address not long ago delievered before a certain association was horribly stuffed with quotations from various tongues, ancient and modern, to the admiration of the audience, who had no suspicion that these elegant extracts had been supplied by a local schoolmaster. In the Harveian Oration delivered the other day before the London College of Physicians by one of the Fellows of that august body, the speaker seemed to have ransacked every available dictionary of quotations, and it must be admitted that he showed not a little ingenuity in working the tags there found into the patchwork of his discourse. This kind of pedantry is not so common as it was, but it is still considered by pundits of the pompous academic type to be a mark of culture, and they think it necessary to make a display of literary bunting to impress the minds of the vulgar. They act on the principle of Dr. Jobling in "Martin Chuzzlewit," who would fire off some scraps from the Latin grammar that people might speak of him as "a well-read man, a classical scholar."

The introductory address, however, is felt to be a bore, and for some years past it has at one school after another been allowed to fade into nothingness. It still survives in some of the smaller London schools which have a fierce struggle for life, and in some of the newer provincial schools it is used as a means of advertisement.

The entries both at the London and the provincial medical schools this year show a marked and progressive falling off as compared with the two previous years. This diminution is doubtless due to the increased length of the curriculum which now extends over five years and has become proportionately more costly. But the profession in this country is largely overstocked, and a lessened output of doctors is not likely to cause inconvenience to the public.

As a curious illustration of the competition between our too numerous medical schools, it may be mentioned that some of them decline to furnish returns of their entries on the ground that cooked figures are supplied by rival institutions, which thus are made to present a deceptive appearance of superior prosperity. It is hinted by those who ought to know what they are talking about that this manipulation of figures is carried out to such an extent in the London schools as to make the returns quite untrustworthy.

The medical societies are again in full blast. The most interesting debate so far has been one which took place on October 28th at the Medical Society, where Drs. Elliot and Washbourn, who saw much of typhoid fever in South Africa, gave an account of their experience, particularly in regard to the protective value of inoculation. The mortality of the cases which passed through their hands was 13.7 per cent., practically the same as that of the Metropolitan Asylums Board of London during 1900, but almost double that of the Johns Hopkins cases. With regard to the influence of inoculation in averting a fatal issue, they stated that the mortality was 10.7 per cent. in 186 patients who had not been inoculated and 16 per cent. among 25 who had been inoculated. Adding together cases recorded at other hospitals the mortality among 120 inoculated cases was 7.4 per cent. and among 556 not inoculated 10.9 per cent. These figures in the author's opinion did not show that any marked beneficial influence could be attributed to inoculation. With regard to incidence they found that among 224 persons inoculated the proportion attacked was 11.4 per cent. and among 157 not inoculated it was 14.6 per cent. From these figures they drew the conclusion that inoculation was not of any practical value in preventing the disease. As Dr. Washbourn can speak as one having authority in regard to fevers, his opinion will generally be received in this country as going far to discredit antityphoid inoculation. It is not surprising, therefore, that his communication moved Professor Wright of Netley to a certain degree of argumentative pyrexia in defending his intellectual offspring. He pleaded that the adverse conditions in South Africa might have counteracted the good effects of inoculation, and quoted statistics collected by himself which showed that of 8,600 persons inoculated 2.4 per cent. contracted typhoid, while of 41,000 not inoculated the percentage attacked was 5.75. A case mortality of 12 per cent. occurred in inoculated and one of 21 per cent. in the uninoculated. He recommended that in order to give the method fair play every person should be inoculated twice. A small dose of the protective serum gave a temporary immunity and a large dose a period of increased susceptibility followed by a later and more permanent immunity. The experience of Drs. Tooth and Rolleston, also gained in South Africa, was favorable to inoculation, and Surgeon-General Cayley stated that if he were going out to South Africa again, he would be inoculated twice on the voyage out. The most practical contribution to the debate was made by Surgeon-General Muir, Deputy Director General of the Army Medical Service, who said that the question as to the value of inoculation could be decided only on the analyzed results of thousands, not hundreds, of cases.

In a previous letter reference was made to rumors about the health of King Edward, which have been flying about in all ranks of society here ever since his accession. Everywhere one heard it stated with the most positive confidence that His Majesty was afflicted with the same disease which caused the death of his brother-in-law, the Emperor Frederick, and his brother, the Duke of Saxe-Coburg. I pointed out that there was absolutely no foundation for the rumor, which probably had its origin in the appointment of Sir Felix Semon as one of the King's physicians. The appointment of a specialist to such a post was certainly a departure from precedent, but it does not need for its explanation so portentous a hypothesis as that the King is suffering from cancer of the throat. Semon is a German, and as such naturally inspires confidence among the Royal family, who are more German than English. The

Princess Christian persistently puffs Pagenstecher and has sent half the British aristocracy and a large proportion of our snobocracy to Wiesbaden. He was brought over to the Isle of Wight to see Queen Victoria, though the visit was kept dark. In addition to being a German, Semon is a Jew, with his full share of the pushfulness of his ancient race. Opportunity has done much and importunity has perhaps done more in advancing his fortunes; and the result is that he basks in the somewhat inane smile of the sovereign ruler of these realms. Let it be understood that Sir Felix Semon deserves his good luck. He is an excellent physician, though much inferior to Morell Mackenzie as an artistic performer with the laryngoscope, and he has the bump of veneration for the great very highly developed. It is natural, therefore, that he should have found favor in the eyes of the King, but to infer from this that His Majesty has cancer is very bad logic.

The rumors to which I have alluded have for the first time found expression in the newspapers during the past week. A paper which mainly circulates among the working classes published a highly sensational announcement that the King was suffering from cancer of the larynx; that three operations had been performed; that his Majesty's voice gets huskier week by week; that quite recently the King was seized with difficulty of breathing and that an immediate operation had to be performed, which gave only temporary relief, and that serious developments are expected. These statements are evidently taken from a remarkable article in an American newspaper purporting to be written by Dr. Leffingwell Hatch of New York. In that article it is stated that Dr. Hatch was one of the delegates from the United States presented to the King on the occasion of the Tuberculosis Congress, and that from the hoarseness of the King's voice he came to the conclusion that His Majesty was suffering from papillomata of the larynx. For further detailed statements as to operations performed on the King, as to Dr. Leffingwell Hatch having been "unofficially" consulted on the case, etc., the editor of the paper in which the doctor's statement is published appears to be responsible. But the honor of the diagnosis belongs to Dr. Leffingwell Hatch alone, and it is right that he should have it, for it is altogether a record achievement. The doctor, in fact, recognized huskiness in a voice which he could not have heard at the audience—for the excellent reason that he was not there. The official list of the foreign delegates presented to King Edward VII. at St. James's Palace on July 25th is now before me, and the names of those chosen to represent the United States are there given as Professors Osler and Janeway. Dr. Leffingwell Hatch's name is conspicuous by its absence. His article is illustrated with diagrams of the larynx and with what I take to be a picture of himself with a laryngeal reflector on his forehead. Surely such apparatus is superfluous for a man who has the power of discovering what there is in a man's throat without seeing the patient.

TRANSACTIONS OF FOREIGN SOCIETIES.

French

DISSEMINATION AND LOCALIZATION OF ANTIMONY IN ANIMALS—OZENA AND METHYLENE BLUE—PENETRATING WOUND OF THE SPINAL CANAL—PENETRATING WOUND OF THE SPINAL MENINGES WITH ESCAPE OF CEREBROSPINAL FLUID—GUNSHOT FRACTURE OF THE SKULL.

M. G. Pouchet, at the Académie de Médecine, Oct. 1, 1901, read a paper on the dissemination and localization of antimony in the system of animals, especially of rabbits and dogs, with the view of indicating the sites of its deposit and spread in man. His first animal was a rabbit and weighed 1095 grams; it absorbed 30 doses of tartar emetic each 0.005 grams, representing 0.054 grams of antimony. It was then killed. A search for the poison was almost negative except along the digestive tract; the skin and the fur gave only the slightest possible reaction. This experiment lasted fifty days. Three other animals, weighing respectively 2,000, 1,960 and 1,890 grams, were fed the drug for 115 days, absorbing in that time 1.314 grams of the metal. At first the animals increased in weight and otherwise improved, but during the last of this period lost their fur, which had up to the alopecia become more lustrous, and their skin also became scaly and peeled off, leaving red excoriated areas. At the autopsy all the organs appeared practically normal, except those of the gastro-enteric system, where alone the drug was distinctly found. The brain was absolutely negative; the skin, nails, hair, liver, spleen, bones, kidneys, muscles, etc., were all virtually without reaction or at most with a slight reaction. Dogs gave the same manifestations. The addition of even a little arsenic hastened the clinical conditions, especially those of the nervous system, and the findings at the autopsy were considerably altered. The cerebrospinal axis, muscles, liver, etc., contained arsenic, but no antimony. The bones contained each in traces. The skin and hair also showed both, with considerable increase in antimony. The digestive tract had much more antimony and considerable arsenic. The administration of other drugs of the class of bromide of potash appeared to have much influence in the symptomatology and in the distribution and quantity of the findings.

Hallopeau, at the next meeting, Oct. 8, 1901, gave a few notes suggested by the work of Bounet (Massiac) on the treatment of ozena with methylene blue. A two-and-a-half-per-cent. solution is used as an irrigation, at first thrice, finally once daily, always with most favorable results within about three or four weeks. It has the unfortunate disadvantage of staining the lips and nares. In syphilitic ozena it appears to limit only the secondary infection, having no influence upon the syphilis.

Loison, military surgeon, at the Société de

Chirurgie, Oct. 2, 1901, narrated the facts of a case of a small caliber projectile, movable within the spinal canal. The soldier was shot in the back, in the lumbar region, with a Flobert rifle. Radioscopy gave no tangible results. Physical examination revealed only the wound of entrance. Radiography disclosed the ball in the sacral region about two centimeters from the surface. Judging from the external wound, the ball probably entered between the second and third lumbar vertebræ and then once within the canal fell by its own weight as far as the cul-de-sac of the arachnoid would permit. Upon the cadaver, he proved that such a condition could easily exist. Trepanation and exploration failed to find the ball. A second radiographic picture showed its movability. Then the method of Contremoulin served to locate and extract it.

MATHIEU (army surgeon) in behalf of M. L. Giss (Thionville) reported a case of penetrating stab-wound of the neck at the level of the sixth vertebra. About twenty-four hours after the injury a serous fluid began to issue from the wound and the patient showed paresis of the right upper extremity. As the point of the knife remained in the wound he diagnosed its entrance through the meninges. After some difficulty this fragment was removed and the cerebrospinal fluid continued to ooze at the rate of four or five liters a day on some occasions. The outflow suddenly stopped itself. The total loss appears to have been about thirty liters. A long slow recovery followed. The recovery has persisted for two years up to the present.

PICQUÉ also reported a gunshot case for Toubert (military surgeon) involving the right temporal region in a large fracture. Primary trepanation could do little. Tamponade of the wound was necessary. At the autopsy, three days later, it was found that the ball had lodged in the left optic tract posteriorly, after having damaged the right also. During life glycosuria and albuminuria appeared after the injury—perhaps because the ball damaged or passed near the floor of the fourth ventricle.

SOCIETY PROCEEDINGS.

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Stated Meeting, Held Saturday, October 26, 1901.

The President, Howard Lilienthal, M.D., in the Chair.

Functional Derangements of Thyroid Gland.—The paper of the evening was read by Dr. John G. Perry and detailed a series of cases in which functional disturbance of the thyroid secretion seemed to be the basis of a distinct pathological condition. Dr. Perry said it is now well recognized that myxedema is the result of the entire absence of the thyroid gland. With the question of symptomatic affections due to lessened function of the thyroid, however, there is much uncertainty. He has found in the experience of the last few years, a series of cases in which especially the therapeutic test of relief after the administration of thyroid extract has forced him to the conclusion that functional disturbances of the thyroid are not infrequently the basis of obscure symptoms usually attributed to other causes.

Symptomatic Picture.—The symptoms presented by the patient who derives benefit from the thyroid treatment under Dr. Perry's care presented a decided uniformity. Five symptoms were usually present. The most noticeable of these was pain in the joints. The other symptoms were a feeble and rapid heart, a tendency to headache, not localized but general; in women, menorrhagia and the usual development of the symptom-complex after a shock or fright. Because of the presence of the pain in the joints, nearly all the cases had been treated for rheumatism. In some of them, after the failure of rheumatic treatment, physicians had come to the conclusion that suppressed gout existed, and treatment for this condition had been applied. The joints were not red and usually were not very tender. There was frequently a pallid swelling with slight tenderness, resembling the conditions which develop in the so-called neural arthropathy described by Charcot. One of Dr. Perry's typical patients was an unmarried woman who was thought to be suffering from suppressed gout. She had not been benefited by any therapeutic measure employed. She was gradually drifting into a helpless condition of invalidism. In addition to a peculiar pallor of the face, the eyes were drawn together, and the pinched expression, with compressed lips, indicated an intensely neurotic condition. This was noticeable particularly during her painful attacks. The attacks were not associated with flatulency nor gastric disturbance and did not simulate migraine. The day after an attack she would be up, feeling reasonably well, but without appetite and physically depressed.

Local Symptoms.—Her so-called attacks of gout were localized in the knee. This was not swollen nor reddened, but was puffy and tender. In women increase of menstruation was a marked feature and in this case this symptom evidently rendered the condition more serious. Examination disclosed the presence of a flabby uterus presenting much less resistance to the examining finger than usual. Derangements of the gastric function were common, but seemed to have no necessary connection with the attacks. The urine was negative and, though special attention was given this point, no urates nor uric acid in excess were found to be present. In a word, the only reason for the diagnosis of suppressed gout were the uncomfortable feeling in the joints and the culmination of this feeling at stated intervals.

Presumed Etiology.—When the patient herself was asked to state what she thought to be the cause of her condition she attributed it to a railroad accident, in which for a time she had become separated from a very dear friend, and had concluded that that friend was beneath the

wreck. Inquiry among friends elicited the fact that the railroad wreck had been a very serious one and that the condition of mind that developed in the patient as a consequence of the supposed loss of her friend after going through a period of serious personal danger had been amply sufficient to produce an intense emotional strain.

Psychical Symptoms.—Some of the most important symptoms in this case were mental. The patient had never been considered eccentric. Since the accident, however, she had become abrupt and forbidding in her manner, and, though more or less unconsciously to herself, not infrequently insulted old and dear friends. After talking quietly with a friend for some time, she was apt to interrupt the conversation and take her departure from the room or the house, and, from being a rather sensible person, had become extremely sensitive.

Treatment.—The only physical sign in the case that seemed to provide a possible rational indication for treatment was the filling in of the suprasternal notch. With the idea that the thyroid gland or some disturbance of its function might have to do with the symptoms, psychical as well as physical, extract of thyroid was given for some time. At first, one five-grain tablet of thyroid extract was given every day. Two tablets for some days and, as there was not any nausea nor heart disturbance, the dose was increased to three, and was continued for some months. After the first month there was a notable decrease in the symptoms. After a year of treatment the patient was advised to take only two tablets a day, but to resume the taking of more of the extract, even to four tablets a day, if any of the old symptoms recurred. She has had no attacks now for several years.

Theory of Etiology.—As the result of the therapeutic test, the only consistent theory of the etiology of the symptoms was that the shock to the nervous system had caused a diminution of the function of the thyroid gland. As soon as sufficient thyroid extract was supplied the patient improved and this improvement has continued. There remains, of course, the important question as to how long the patient shall have to continue the use of thyroid extract. There is every reason to hope that the improvement of the general condition consequent upon the taking of thyroid extract will foster also the nutrition of the thyroid gland and bring it once more to perform its function as completely as before. In the meantime, the continued relief of symptoms leaves no room for hesitation that the thyroid extract has been effective as a therapeutic measure.

A Second Typical Case.—This patient was the daughter of an old army friend. She was sent from a distant city in the fourth month of her pregnancy. She was in an intensely neurotic condition. The headache, the tender joints, the liability to exacerbations and the feeble, rapid heart, with obliteration of the suprasternal notch were distinctly present. There was no menorrhagia, but this had existed before her conception. She was put at once on five-grain tablets of thyroid extract. The case proved, however, extremely obstinate to thyroid medication. No improvement was noticed for two months. Then she began to gain in weight and her other symptoms rapidly improved.

Appearance of Child.—The delivery was normal, although there was some terminal uterine inertia that required assistance. The appearance of the baby was, as the grandparents described, humorous, to say the least. The nurse called attention, when the baby was about a week old, to a constant habit of rotation of the head, which the baby exhibited. Examination showed that there was some opisthotonus. The face, while full and well nourished, was pale and somewhat pasty. There was a fulness about the lips and under the eyes that gave a peculiar expression. The baby was given thyroid extract at first in doses of two grains each day; later two grains three times a day were given. Very shortly the appearance of the face began to change and the countenance became more human. This improvement continued until an apparently normal condition was reached and this has persisted for two years. The child's teeth came late, but at the present time it has the full complement for its age and enjoys perfectly good health. The only question is, shall the administration of thyroid be stopped or shall it be continued?

The Third Generation.—The child's grandmother has suffered for a long time from a chronic ailment with subacute exacerbations that had made her a confirmed, though rather a resigned invalid. She had an especially weak heart and her physician was often compelled to spend the night by her bedside in hourly expectation of death from heart failure. She believed herself an enigma, but considered that a fatal termination of her ailment by heart failure was inevitable sooner or later. She came on to New York to see her daughter and grandchild and so came under Dr. Perry's care. The grandmother's condition was very similar to that of her daughter. Her heart was very feeble and the circulation so poor that sensitiveness of the joint structures might have been expected. She was so weak that she was practically bedridden and had resigned herself to this state of affairs. She was put on thyroid extract and after a few weeks began to improve. She has a decided disinclination for the drug and feels that it produces a sort of intoxication in her after some time, but she continues to use it intermittently because of the good she feels it does her. In this case, after about three weeks' administration of the drug, symptoms of intolerance developed. These were more subjective than objective. There was a feeling of gastric uneasiness and cardiac discomfort. A sense of repletion that somewhat interfered with the appetite also developed and produced the impression that something was being taken that intoxicates. After an interval, however, of absence of the drug these symptoms disappeared. With regard to the child, if it had been

healthy, the drugh would not have been administered. On the other hand, a normal child would surely not have tolerated the large doses of the drug, two grains three times a day, that were administered during the first two years of life.

Significance of the Condition and of the Medication.—Dr. Perry thought that these cases represent a hitherto undescribed symptom-complex, and that the use of thyroid is indicated only on empirical grounds. His success in the use of thyroid extract justifies him, however, in believing his diagnosis correct and seems to open up a new chapter in successful therapeutics. The subject is as yet only on trial, but what has been found is suggestive and indicative of important functional disturbances of ductless glands that have thus far not been suspected.

Thyroid Extract in Otology.—Dr. Joseph Kenefick said that in looking over a recent review of therapeutics in otology, he had noted that certain authorities recommended thyroid extract in otitis media and claimed to have obtained good results from its use. It is well known that otitis media has a special tendency to develop in persons suffering from the gouty diathesis. It is not improbable, then, that there are certain cases in which the affection occurs as the result of what might be called the thyroid diathesis, a diminution of the function of the thyroid gland.

Functional Thyroid Disturbance.—Dr. Edward M. Foote said that surgeons have reported cases in which the removal of a large portion of the thyroid has been followed not by complete, but by partial myxedema. It seems perfectly easy to conclude, therefore, that a disturbance of the function of the thyroid which limited its secretion to a considerable extent, might act in the same way as a removal of a large portion of the gland. Surgeons have found that the modified myxedema, incident to partial removal of the thyroid, can be rendered innocuous by the administration of thyroid extract. This would furnish at least a theoretical basis for the administration of the thyroid in the cases of diminution of function of the thyroid.

Action of Thyroid Extract.—Dr. Charles Schram said that there is as yet no absolutely sure scientific basis for the thyroid treatment. While it has been administered in a number of cases with reported good results, its administration has not met with general satisfaction. Dr. Schram has used it particularly in cases of obesity and, like most others, he found that it did help in the reduction of the weight, but as soon as the administration of the drug is stopped the patients rapidly regain their weight. Exercise accomplishes the same beneficial purpose of reducing the weight and provides the patients at the same time with habits of life that enable him, or her, to keep the weight from rising too high again.

Iodothyrin.—Dr. J. Hilton Waterman said that in cases of obesity in which thyroid extract is used it is not uncommonly found that irregularity of the heart action develops. When there is much fatty infiltration this cardiac irregularity is so marked as to constitute an absolute contraindication to the use of the drug. Iodothyrin, one of the supposed active principles of the thyroid gland, is much better borne, as a rule, than the crude extract, but its results in the reduction of the weight are not so marked. As a rule the use of thyroid in any form for obesity is satisfactory only for the time being.

Thyroidism.—Dr. Howard Lilienthal said that the study of the ductless glands is undoubtedly the most important subject of the new century. Thus far pathological conditions alone have been considered. It is possible, however, that there may also be functional disturbances. In the cases described, however, there is a question whether there may not have been a failure of the gland to develop to its normal extent and consequent lack of function with a condition of unstable equilibrium of nutrition. With regard to the symptoms of thyroidism and of intolerance of the remedy, Dr. Lilienthal noted in one case in which he employed it the occurrence of glycosuria. This symptom was not present when the drug was first administered, but developed during its administration and persisted afterward to some degree.

Supposed Chlorotic Conditions.—Dr. Perry in closing the discussion said that the cases which he has noted resemble chlorosis not a little, especially when they occur in young women. It is well, then, for the practitioner when anemia is present to note the condition of the suprasternal space and, if it is not depressed, to bear in mind the possibility of thyroid being useful in the treatment of the case. It is wonderful how much objection there seems to exist in the minds of physicians to the administration of thyroid. More than once when his patients have gone to a distance, Dr. Perry has asked them to go to their physician and have him prescribe for them thyroid extract, as it had been used before. Almost as a rule, physicians refused after a certain time to take the responsibility of further continuance of the remedy. The most remarkable thing in Dr. Perry's series of cases was the absolute tolerance for the thyroid extract shown by the patients.

Graduated Dosage.—Dr. Perry said that all patients are not able to stand the dosage suggested in the two cases described. In a recent case a young woman came to him in an excited condition with a feeble pulse over 100. She was told to take two five-grain tablets of thyroid extract per day. Within a week she came back so agitated as to be scarcely able to speak. Her pulse though weak was running furiously. The thyroid extract was stopped and when its effect had passed off, she was directed to take half a tablet twice a day, but with the same result. The doses were made smaller and smaller until, finally, only $^1/_{13}$ of a tablet was given twice a day. She gradually became accustomed to this and the dose was increased to two tablets a day. This patient was intensely sensitive to the action of thyroid extract, but the cure of her condition was rapid.

Thyroid Extract as a Heart Tonic.—Dr. Perry says that for cases of feeble heart there is no heart tonic that is so effective as thyroid extract. After digitalis, strophanthus and other recognized heart tonics and stimulants have been used without success, Dr. Perry has employed thyroid extract and found it to do good. In cases of weak heart action without definite valvular lesion he now uses it regularly in preference to other heart tonics and invariably gets good results. In the weak heart that often occurs with obesity he had found thyroid extract especially useful. It controls the tendency to rapidity of heart action after exertion and adds greatly to the comfort of the patient. With regard to the use of the thyroid extract in obesity a certain selection of cases for the treatment should be made. Many cases of obesity are accompanied by anemia, general systemic feebleness and a weak heart. These cases invariably do well on thyroid extract.

SOCIETY OF DERMATOLOGY AND GENITO-URINARY SURGERY.

Stated Meeting, Held October 11, 1901.

Case of Keloid.—Dr. F. Cabot presented the case of F. V., colored, aged twenty-seven years, male, native of Cuba, cigarmaker, who noticed in 1894 for the first time a lesion on the right cheek, which he describes as smooth and hard, of the size of a bean, painless and slightly elevated. This lesion was cut out by a Cuban surgeon in 1896, but soon returned, and is now the size of thumb. Quite a number of other lesions of similar nature are now found on the chest and various parts of the trunk. There is no history of local injury, except perhaps friction in connection with the lesion on the right elbow. No evidences of syphilis, past or present, are present.

In discussion Dr. Leviseur said that the colored race is particularly prone to the development of true keloid. Some authors claim that the differential diagnosis made by the microscope shows that in true keloid the papillæ of the skin are preserved, while in spurious keloid or in a hypertrophied scar they are absent. As far as treatment is concerned the injection of thiosinamine has been recommended. He had not had any success with electrolysis, although he had tried it in a number of cases. Excision is risky, because as a rule the tumor reappears. At one time continuous pressure by aid of bandages, or a pelotte, was recommended by French authors. This method of treatment was given a trial in two cases without success. The keloid developing in or around a syphilitic scar promptly disappears under energetic antispecific treatment.

Dr. Lapowski said that good results have been obtained from the use of thiosinamine. It might be injected directly into the keloidal tissue. Regarding syphilitic keloid, he had treated a case in which the injection of calomel and large doses of potassium iodide had little or no effect.

Dr. McGowan said that it is evident that if thiosinamine is injected directly into the keloidal tissue much more rapid results are produced than if the injection is made under the healthy skin for its general effect. He had not seen any great benefit from it.

Dr. Whitehouse had not obtained good results with thiosinamine, but had successfully employed 10 per cent. oleate of mercury and mercurial plaster. Occurring in the white race the various remedies and methods of treatment are worth a trial; but if in the negro it is preferable to leave the affection alone.

Dr. Lusk had tried thiosinamine in 11 cases, internally and hypodermatically, between the shoulders, around and in the keloid. At first there was apparent improvement in some cases, but after two to six months' treatment he failed to find any good results from its use. He succeeded in relieving the irritability by protecting the parts from pressure and applying a coating of collodion containing 10 to 15 per cent. of belladonna.

Case for Diagnosis.—Dr. Green presented this case. The patient was seen about two months ago, when her husband asked him to examine her. At first a diagnosis of eczema was made and a zinc and camphor ointment was given to relieve the itching. The eruption became worse. Changing the diagnosis later to psoriasis, arsenic and an ointment consisting of Lasar's paste with oil of birch tar, one dram to the ounce, was prescribed. She still became worse. Then iodide of potash was given, after which the patient began to improve. A salve of white precipitate ointment was also given. The improvement continued, and the spots almost entirely disappeared. The patient disappeared from observation for four weeks, after which time she presented herself with the eruption as seen at present. The case was puzzling, because it certainly had the features of eczema, psoriasis and syphilis, but did not improve with treatment for eczema or psoriasis, but yielded to antisyphilitic remedies.

Dr. Leviseur considered the case one of seborrheic eczema. Dr. Lapowski considered it syphilis combined with seborrheic eczema, the syphilis predominating. Dr. McGowan was inclined to regard the case as psoriasis, as the brawny, dry, scaly appearance that is found in seborrheic eczema does not seem to be present. The flexor and extensor surfaces are involved, and psoriasis does not limit itself exclusively to the extensor surfaces. It has been in existence off and on for twenty years. He advised a course of arsenic and local application of salves ordinarily used in psoriasis. Mercury is beneficial in psoriasis, but he was confident the psoriatic treatment would accomplish as much as the antisyphilitic.

Dr. Lusk said that he had had a number of cases similar to this, chronic psoriasis appearing more or less continuous for a number of years, and upon that a papular syphilide. Dr. Whitehouse thought it a difficult matter to give a defi-

nite opinion in regard to the case without a careful examination by daylight. He believed the patient to be syphilitic, but at the same time could not conceive of a syphilitic eruption coming and going and being present for twenty years. There is some other eruption subjoined.

Case of Lupus Vulgaris Exuberans.—Dr. Leviseur presented the case of a girl, twenty-four years of age, who consulted him last winter in regard to an ulcerating lupus vulgaris of the entire nose and neighboring parts of both cheeks of eight years' standing. She had been treated by the ordinary methods in several dispensaries and hospitals. The affection had destroyed both alæ nasi, and there were deep ulcerations partly covered by thick brown crusts partly exposed and discharging freely. The whole nose was mushy, and ready to break down at any moment. After constructing a Finsen apparatus with lenses which he had brought from abroad, he began treatment, using a self-focusing stereopticon lamp of 2,000 candle-power and 15 amperes. The patient had 45 sittings of an hour each, at first every day, and then at intervals of one, two, and finally three days. No improvement was noticed until two weeks after the last sitting when the ulcerations began to heal and the skin began to become hard. Since treatment with the Finsen light during the summer is very inconvenient (the sunlight in the open air is generally used abroad) he destroyed some of the remaining lupus nodules by aid of electrolysis. The result, particularly from a cosmetic standpoint, was certainly remarkable, even if the affection should recur later on. It equals the success of the cases which he had seen in Paris the summer before last. They were sent over from Copenhagen and put side by side with lupus cases treated by excision, transplantation, cauterization, scraping, etc., demonstrating the superiority of the new treatment.

Dr. McGowan said that Dr. Pusey of Chicago has reported very excellent work in the treatment of lupus with the X-ray. The speaker had tried the X-ray in cases of carcinoma referred to him with good results. Dr. Leviseur said that the action of the X-ray and the Finsen light is very similar. The danger of producing a dermatitis or sloughing with the X-ray must always be considered. Dr. McGowan said that since low-pressure tubes were obtainable there is less danger from gangrene. There is no doubt but that the results from the X-ray or Finsen light are far superior to anything preceding. Dr. A. B. Johnson said that the previous speaker had stated that it has been found that high-pressure tubes are more apt to produce X-ray burns than tubes of low pressure. If by that is meant that high-vacuum tubes are more likely to produce burns than are low-vacuum tubes, he believes him to be mistaken, for the contrary is the fact in his experience. It is impossible to explain why this should be so, yet such is the experience of those whose opportunities have been greatest in this field. His own experience in the detection of calculi in the kidney, where a tube of low vacuum must be used in order to get the best results, indicates that exposures with such a tube not more than one foot from the skin will produce dermatitis in a small proportion of cases, provided the aggregate time of exposure is fifteen minutes or more at any one sitting. Such dermatitis may be avoided by placing the tube not nearer than eighteen inches from the skin, limiting the time of exposure to ten minutes, or less, and refraining from a second exposure for from ten days to two weeks. The utility of protective measures, such as cleaning the skin, greasing the skin, or the use of a grounded, thin metal screen between the tube and the body of the patient, is doubtful. While with good apparatus it is not hard to show the presence of a stone of considerable size in the kidney of a thin individual, in the case of large, stout persons the difficulties are much greater. It is not sufficient to be able to show the presence of a stone of considerable size; we desire, also, to be able to establish a negative diagnosis. It is desirable that the stomach and large intestine be empty at the time the exposure is made. Experience in the examination of X-ray negatives of the kidney region is necessary to enable one to say whether a given picture shows sufficient detail to establish a negative diagnosis.

BOOK REVIEWS.

The Diagnostics of Internal Medicine. By Glentworth Reeve Butler, A.M., M.D., Attending Physician to the Methodist-Episcopal Hospital (Seney), Brooklyn. D. Appleton & Co., New York.

Heretofore the works of Vierordt and Musser have reigned supreme in the field of internal diagnosis, and excellent books they both are. A new claimant for honors is here presented in this book of Dr. Butler's and it may be at once conceded that it has at the first leap put itself on a par with the best of American text-books—Musser—if it does not surpass it.

Coming as it does from a heretofore little-known author, this is all the more surprising, but it is just such kind of surprises that bring anew into prominence the truth that the masters of medical science are not those who are continuously blowing their horns, in season and out of season, but that many a quiet worker is busily gathering excellent material and arranging it for his fellow workers.

The work before us varies in some respects from others of its kind. We do not know of any recent work on diagnostics which deals so exhaustively and at the same time so practically with the science and art of the examination of the patient. Its thoroughness and lucidity are striking attributes and the student of medicine of today is to be congratulated that he here has a work of such finish to aid him in the gaining of the character of the diseased process under consideration.

Another feature, which is perhaps not as desirable, and yet is a necessary part of a work of this kind, is the condensed series of descriptions of diseased processes. Had not this condensation been done in the able manner in which it has, this portion would partake of the character of many manuals of medicine, but in its present concise and yet comprehensive form this criticism does not avail and the author shows evidence of rare discrimination in the use of striking symptoms in description. Etiology, symptoms and differential diagnosis are alone considered. Therapy is not mentioned.

A review of this work would not be complete without a word as to several chapters which have been contributed by other workers. These are excellent aids to the book and supplement in a masterly manner the central body of the text. Chapters by Drs. Shaw, Webster, DeForest and others are excellent. That on nervous diseases by Drs. Jelliffe and Bonar is sufficient and yet comprehensive, the authors' central idea of the inclusion of all necessary details being well carried out.

The illustrative features constitute a veritable *tour de force,* they are nearly all derived from photographs and the author and publisher are to be congratulated on their recognition of the value of good illustrations, even though they may be found somewhat striking to the general onlooker. The publisher's part in the work is on the same high level that has always been the pride of this old New York house. We predict for Dr. Butler's work a great success and a well-deserved one.

STRENGTH FROM EATING. HOW AND WHAT TO EAT AND DRINK TO DEVELOP THE HIGHEST DEGREE OF HEALTH AND STRENGTH. By BERNARR MACFADDEN. Physical Culture Publishing Company. New York.

IT IS not often that an anomaly of this type strays into the reviewer's hands and when it does, were it not for calm effrontery of its supreme ignorance of matters hygienic and sensible, the reviewer would pass it by with a smile.

If there is a type of "yellow journal" hygienic science, such a work typifies it. Sensationalism and fulsome hyperbole are its main attributes and were it not for a vein of sense discernible here and there, even the uneducated reader, for whom the book is specially prepared, would not take the trouble to read it.

If a little knowledge is a dangerous thing, one wonders how dangerous is none at all. If the dear, discriminating public are told that "even soups must be submitted to a certain amount of *chewing* in order to mingle it with saliva" one wonders what rare and wonderful physiological processes are necessary to get the air in the lungs.

This work taken as a whole is very amusing. It should be read by a medically trained man to appreciate what the public is taught regarding the processes of digestion by such manuals. He will no longer wonder why Sixteenth Century ideas are still in the minds of the people.

TRAITÉ DE MÉDECINE ET DE THÉRAPEUTIQUE. Publie sous la Direction de MM. P. BROUARDEL et A. GILBERT; Tome Huitième. Maladies de Pleures et du Mediastin, Maladies de l'Axe Cerébro-spinal. Par MM. LANDOUZY, M. LABBÉ, GALLIARD, MENETRIER, BOINET, ACHARD, BALLET, P. MARIE, LÉVI, KLIPPEL. J. B. Baillière et Fils, Paris, France.

THE eighth volume of this masterly treatise, treating of diseases of the pleura, the mediastinum and the cerebro-spinal axis, comes as a welcome addition to those that have gone before. The discussion of the diseases of the respiratory tract is here completed and that of the nervous system begun.

There is little that is new in the author's treatment of pleural conditions; the subject of the cyto-diagnosis of pleural exudates is perhaps an exception to this treatment, but in the chapter on mediastinal diseases there are a number of interesting observations by Boinet.

The opening chapters on nervous diseases promise much. The subject of aphasia is taken up by Ballet; P. Marie discusses hemiplegia and paraplegia and Achard, apoplexy and coma, delirium, convulsions contractures, tremor, vertigo, headaches, and tropho- and vaso-neuroses. Cerebral pathology is treated by P. Marie and M. Klippel. Thus many of the foremost neurologists of France are engaged in this volume and their work justifies their reputation.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

A CIVILIAN WAR HOSPITAL. Being an Account of the Work of the Portland Hospital, and of Experience of Wounds and Sickness in South Africa, 1900. By the Professional Staff. 8vo, 341 pages. Illustrated. Longmans, Green & Co., New York.

DISEASES OF THE UPPER RESPIRATORY TRACT, the Nose, Pharynx and Larynx. By Dr. P. Watson Williams. Fourth Edition. 8vo, 436 pages. Illustrated. Longmans, Green & Co., New York.

LABORATORY COURSE IN BACTERIOLOGY. By F. P. Gorham, A.M. 12mo, 198 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

PATHOLOGICAL TECHNIQUE. By Drs. F. P. Mallory and J. H. Wright. Second Edition. 8vo, 432 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

A TEXT-BOOK OF OBSTETRICS. By Dr. B. C. Hirst. Third Edition. 8vo, 873 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

A MANUAL OF THE PRACTICE OF MEDICINE. By Dr. G. R. Lockwood. Second Edition. 8vo, 847 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By Dr. John V. Shoemaker. 8vo, 892 pages. Illustrated. Fourth Revised Edition. D. Appleton & Company, New York.

ATLAS AND EPITOME OF SPECIAL PATHOLOGIC HISTOLOGY. By Dr. H. Dürck. Edited by Dr. L. Hektoen. Vol. II. 12mo, 192 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

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ORIGINAL ARTICLES.

TRAUMATIC STRICTURE OF THE ESOPHAGUS.

BY F. E. BUNTS, M.D.,

OF CLEVELAND, OHIO;

PROFESSOR OF PRINCIPLES OF SURGERY AND CLINICAL SURGERY, MEDICAL DEPARTMENT, WESTERN RESERVE UNIVERSITY.

SINCE the introduction of retrograde dilatation of the esophagus by Lonta[1] and Von Bergmann in 1883, it would seem that the ingenuity of our surgeons has been directed toward improvements and modifications of this radical procedure, and that having discovered that the operation was a feasible one, although not unattended by danger to life and sometimes followed by the maintenance of permanent gastric fistulæ, as in two out of twenty-one cases collected and reported by Franks,[2] they seem somewhat disinclined to return to the more tedious, though safer method of gradual dilatation.

F. Erlich[3] reports a case of esophageal stricture, following scarlet fever in a child five years old, in which unsuccessful attempts at retrograde dilatation, after the performance of gastrostomy, were followed by successful dilatation by means of spiral bougies and laminaria tents and graded bougies. H. Zeehnisen[4] reports two cases of stricture of the esophagus caused by swallowing lye. He followed König's method, using silver balls attached to strings. The patient would swallow the ball at night as far as it would go. In the morning the ball would be found in the stomach and pulled out. Each night a larger ball was used, until finally a large-sized tube could be passed into the stomach. E. Summa[5] reports a case of stenosis of the esophagus in which a child, two years old, drank lye, and when fourteen years old had great difficulty in swallowing. Some relief was obtained on dilatation. When sixteen years of age patient had pain in the epigastrium and coffee-ground vomiting occurred. Gastro-enterostomy was performed and the patient died. There was a circular scar an inch below the pharynx and a second stricture which extended from the trachea to the cardia. There were also an old gastric ulcer and an ulcer of the duodenum. The author considers the ulcers due to the ingestion of the lye.

The treatment of esophageal strictures by electrolysis is sometimes successful and one case of forty years' standing is reported by W. S. Watson[6] as having been cured. The uncertainties of this method, together with the dangers attending its employment, will probably prevent its ever being generally adopted.

F. W. Samuel[7] says that the treatment by mechanical dilatation is applicable only to such cases as can easily swallow semi-solid food. This imposes upon the patient an almost lifelong task, and he thinks that gastrostomy with retrograde dilatation by the Kraske or Abbe method is the best treatment known at the present time. That this statement is entirely too sweeping, I believe a reference to the cases which I have to report will show, and, if mechanical dilatation be applicable only to those cases in which semi-solid food can be swallowed, it is because suitable bougies have not been obtainable.

Stricture of the esophagus is one of the most frequent pathological lesions of this organ. Inasmuch as the tendency of such a stricture, if left alone, is to contract progressively, just as we find in strictures elsewhere, a method for its relief becomes a most important problem for the surgeon to solve. The comfort and welfare, even the life of the patient, depend upon the recognition of the lesion and its proper treatment.

The congenital form of stricture is comparatively rare, and while in its simplest form it is amenable to treatment by dilatation, yet in that form in which the tube is completely occluded there is practically no cure, notwithstanding the various ingenious operations which have thus far been resorted to. Spasmodic stricture is essentially of nervous origin and is most common in women; its true character is easily made out, if necessary, by an examination under an anesthetic. Those strictures resulting from the presence of cancerous, tuberculous, or syphilitic growths or from pressure of tumors and other pathological conditions outside the esophagus must be diagnosed by inspection, microscopic examination, bougies and by the history of the case. Their final treatment is nearly always operative.

I wish to speak only of traumatic cicatricial strictures. These strictures are caused by wounds of various kinds and more frequently by the swallowing of strong acids or alkalies. The pain caused by the caustic swallowed may at first be sufficient, when coupled with the lesion which it would naturally cause, to account for the temporary dysphagia. But later, when the pain has disappeared and yet the inability to swallow solid foods continues, the true nature of the trouble may possibly suggest itself to the patient or his friends. In those cases which have been neglected the progress is usually very rapid, especially in the severer forms. The inability to swallow solid food is soon followed by an equal inability to swallow the softer foods, such as gruels, and in a short time even water and milk will, with the greatest difficulty, find their way through the tightening grasp of the cicatrix. Up to this time the patient has managed by repeated and deliberate efforts at swallowing food and drinks to keep up a fair degree of nourishment, and may have been able even to attend to his ordinary occupation. Naturally, as his power to swallow even fluids becomes more

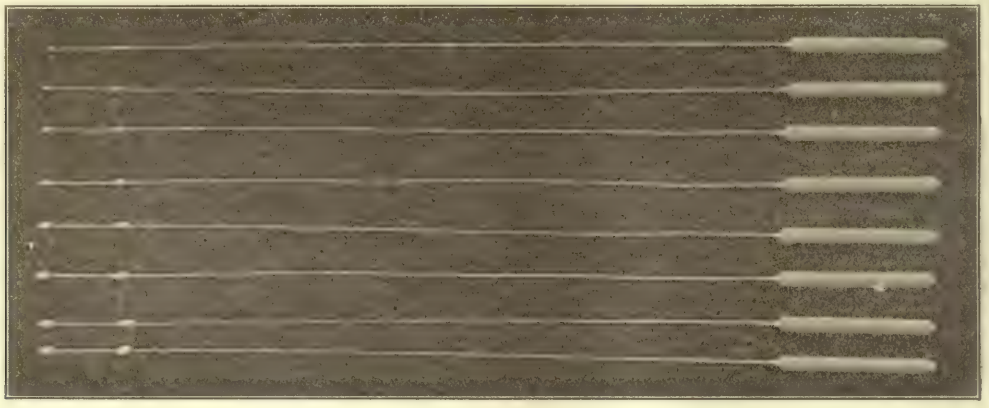
and more diminished, his strength gradually fails, regurgitation of everything swallowed occurs, and the picture is soon that of one who is dying of starvation and thirst. Emaciation is rapidly progressive and unless surgical aid is obtained death soon ensues from exhaustion.

The diagnosis of these cases rests first with the history. Ordinarily this is easily obtained, but when the patient is a small child it is frequently difficult to find out just what has been swallowed. Almost every household uses lye for cleaning out sinks and drains and a small amount of it left in a cup may be swallowed by mistake. Next must be taken into consideration the symptoms: deglutition becomes progressively impaired until all or part of the food is vomited, and this persistent inability to swallow or retain food of any kind should call attention at once to the possibility of a stricture. At first the food in the early stages of obstruction comes up undecomposed; later, as the esophagus becomes more tolerant, the food may be retained until decomposition takes place.

Those strictures resulting from ulcerative processes are liable to be found in the lower third of the esophagus quite as frequently or even more frequently than in the upper third, while those due to mechanical injury, the most frequent of which is the swallowing of lye, are most liable to be found in the upper third, though such a large quantity may be swallowed as to allow enough to trickle farther down and attack almost any part of the tube. The convincing test is, of course, the esophageal bougie, and if the other form of stricture can be excluded and the bougie meets with obstruction in any part of its course, a cicatricial stricture may be safely diagnosed.

The prognosis depends upon the extent of injury to the mucous membrane and consequently the degree of rapidity of contraction. The rapidly contracting strictures are the ones most difficult to dilate and keep dilated. The degree of stricture which permits the taking of liquids and semi-solid foods is perfectly compatible with life and active business pursuits, and may never call for interference on the part of the surgeon, but the greatest number of cases pursue a most unfavorable course and terminate in death if not speedily relieved.

I have now treated eight patients with stricture of the esophagus, each of which was caused by the accidental swallowing of lye. Some of these patients have been children, some adults. In all the stricture was a very small one, and in most the passage of even a filiform bougie was accomplished after several days of repeated effort. I found it impossible to get esophageal bougies small enough for the class of strictures I encountered, and, therefore, I have had made a series of graded double-bulbed olive-shaped bougies which are here illustrated and which have given me much satisfaction. It will be observed that on each staff there are two bulbs, the first being one size of the French scale smaller than the second bulb. This serves to permit one to follow up the advantage gained by passing one bulb, by the immediate passage of one a size larger. Sometimes it will be impossible to increase these sizes more rapidly than one or two of the French scale in every three or four days, at other times we may succeed in dilating it several times each day. Much depends upon the degree of stricture and the depth of the original injury.



Esophageal Bougies.

Great gentleness and care are required, and, if one meets with repeated lack of success in one day, it is better to allow the patient to rest for a day or two, if his state permits it, and then try again. In children I have found it necessary to use a mouth gag; in adults this has not been necessary. On inserting the bougie it is best to have the patient sit upright, in a straight-backed chair, the head thrown back somewhat, in order to straighten the line of introduction of the bougie. Instead of passing it directly back in the median line, it is probably better to pass it into the pyriform sinus at the side of the larynx, which affords a funnel-like aperture that will allow the bougie to slide into the esophagus without encountering the bodies of the cervical vertebræ or the cricoid cartilage. Force should never be exerted.

I have not spoken of retrograde dilatation, nor of gastrostomy, nor gastrotomy, in the treat-

ment of these cicatricial strictures, because in my experience it has never been necessary to resort to such measures, and while dilatation is always more readily accomplished in recent strictures, yet, even in one which had existed for seventeen years, during which time the patient was obliged to live on liquid diet with a stricture measuring from 4 to 6 of the French scale, and who had lost all of his teeth by reason, I presume, of improper nutrition and of never having chewed solid food, I was able by persistent and painstaking dilatation to stretch the stricture to a size sufficient to permit him to swallow solid food when reasonably well masticated.

I wish briefly to relate the history of the cases which have come under my care:

Case I.—A child two years old had been at the "Fresh Air Camp" for malnutrition and persistent vomiting. When brought to the dispensary it was greatly emaciated, fretful and anxious-looking. The mother said it had not been able to retain anything for two or three days, even a teaspoonful of water being regurgitated in a few moments. I tested the child myself and found the statement to be true; it was constantly crying for water, but could not retain the slightest amount. Suspecting a stricture and finding upon questioning the mother that the child had swallowed lye, although a very small amount, as she declared, I endeavored to pass a bougie, but, meeting with an obstruction, was compelled to use a smaller one, a No. 8, French scale. Immediately after passing the bougie I handed the child a glass of water, and before we could get it away it had ravenously swallowed the entire contents of the glass and showed no inclination whatever to vomit. The child was brought for treatment at irregular intervals for a number of months. The progress was, however, very unsatisfactory, inasmuch as the mother would not bring it back except as the stenosis became too great for it to swallow water. At first the child regained its flesh and strength with surprising rapidity, but later, as the treatment became more and more irregular, it began to decline and the stricture became more and more difficult to overcome. The last time I saw it I was unable to insert a No. 8 bougie, and its condition was such that I could hardly expect it to live longer.

Case II.—This case was referred to me by Dr. Ashmun, who saw the patient some time after the accident. When first seen by me he was in the hospital, where he had gone for an operation. He was greatly emaciated, very weak, scarcely able to stand, and unable to swallow even water, so that we were obliged to give him nourishment by the rectum. I soon found I had no bougies small enough to pass the stricture, and, as he urgently requested an operation, saying that he could not and would not live any longer in that condition, I intended to perform a gastrostomy, but, succeeding in procuring a very small whalebone probe, I managed to pass it, after which he could manage to retain liquid if a very small amount was given. Following up my advantage, I had a series of double-bulbed bougies made and soon had this stricture dilated to a No. 12. He then became impatient and left the hospital, able, however, to drink milk. I did not see anything further of him for nearly two weeks, when I was sent for and found him again unable to swallow even water. It was with the greatest difficulty and perseverance that I passed my smallest probe and afterward dilated the stricture gradually to a No. 22. Then he passed out of my care, retaining two of my bougies, which he had learned to pass himself. He could swallow semi-solid foods and even eat meat, but only in very small quantities, finely chewed, and washed down with water and milk. He had grown fat and strong and weighed more than ever before in his life, and was very content to keep along in the way he then was. I am satisfied that I could have dilated to a much larger number, but he thought he was well enough and could not spare the time.

Case III.—This was a child, two and one-half years old, who had accidentally swallowed less than a teaspoonful of red-seal lye four weeks before I saw him. Following the swallowing of the lye he could not eat anything for three days; then he began to eat and nothing serious was suspected for three weeks, at which time he could swallow only milk. This condition persisted up to the date of his first visit to my office. Attempting to pass a large bougie I was unsuccessful, but the small No. 6 passed readily and I was able to dilate it gradually at subsequent attempts up to No. 28 French. I then supplied the parents with a rectal tube of this size and they pass it at intervals sufficient to maintain patency. The child gained rapidly after the first dilatation.

Case IV.—C. M., who is now twenty-four years of age, swallowed, when two years old, a small amount of lye and as a result had a very sore mouth, but had no bad results so far as subsequent nutrition was concerned until after an attack of scarlet fever and diphtheria when six years old. From then on he was obliged to live on milk and soft bread or potatoes, being unable to swallow anything that was in the least hard or that needed chewing. Since the age of twenty he has had no teeth, they having all decayed or dropped out, partly, no doubt, from improper nutrition owing to his limited diet and partly through disuse. I first saw this patient in December, 1897, and at the first attempt to pass an esophageal bougie was unable to introduce even the smallest size, not even the filiform, until after three or four attempts. It took a great amount of care and patience in this case to gradually dilate the stricture up to No. 18 owing to its long standing and extreme resistance to dilatation. This stricture was very near the cardiac end of the esophagus. Owing to his leaving the city I never had an opportunity to dilate to any larger size, but in June, 1899, he called at my office and informed me he was able to eat meat, chicken, veal, bread, potatoes, etc.

Case V.—Mrs. A., aged fifty years, was referred to me by Dr. T. E. Griffiths. On September

4, 1898, she had swallowed lye which had accidentally dripped into a pie, one teaspoonful of the juice being taken and producing immediate caustic effect, blanching the mucous membrane of lips, tongue and pharynx. Milk being the only thing obtainable at the time it was given in large quantities. The stomach-tube was passed and washing of the stomach was attempted, but the food which had recently been taken plugged the tube and rendered it useless. One-tenth of a grain of apomorphine was given hypodermically and free emesis was produced, accompanied, however, by marked prostration. The following day she complained of pain over the pit of the stomach and on deglutition. On September 22d she called on Dr. Griffiths complaining of constant regurgitation of food, which could not be taken and retained unless chewed very thoroughly and taken slowly and with considerable quantity of liquid. The condition grew steadily worse till December 1st, when small quantities of liquid food only, and that very slowly, could be taken. She had two strictures, one about two or three inches from the base of the tongue and the other about six inches farther down the latter, seeming to extend a distance of nearly two inches. When she was referred to me it was with difficulty that I succeeded in introducing the smallest bougie, but having finally succeeded in doing so the subsequent passage at intervals of two or four days of gradually-increasing sizes enabled me to dilate it to about No. 26, after which time, being able to swallow solid food, she disappeared from my care, having already gained materially in weight.

Case VI.—This case hardly deserves to come under a report of personal cases as I know very little about him. He was the husband of the patient referred to as Case V. and acquired his stricture at the same time, both having swallowed the lye supposing it to be the juice of the pie. His wife told me his stricture was just as bad as hers, but for some reason he would not come to my office, so that as I succeeded in passing a bougie in Case V. she would take the same bougie home and pass it on her husband so that his stricture was dilated at the same time and she informed me that he was able to eat solid food again.

Case VII.—W. B., age six years, in August, 1898, swallowed a mixture of Babbit's lye and ammonia, quantity not known. On September 24th, about four weeks subsequently, he was brought to my office to decide as to necessity for operation. He was then much emaciated and able only with great difficulty to swallow liquids. I failed entirely on that day and again on September 26th to pass even a filiform bougie. On September 28th I was able to pass a filiform bougie for a distance of about eight inches. On September 30th I had increased the size to No. 8 of the French scale, but caused a very slight amount of bleeding and this was followed by considerable pain. By October 7th I had passed a No. 12 and so continued slowly to increase the size until by October 30th a No. 24 was passed. A small rectal tube was secured and his parents passed it once every week or two without any difficulty and as the child was able to eat all kinds of food and had gained rapidly in health and flesh they considered him cured and I have not seen him since, though the father told me one month since that the boy was all right.

Case VIII.—L. F., aged thirty-seven years, on July 27, 1900, swallowed a large amount of lye mixed with whiskey with suicidal intent. She was taken to Charity Hospital in an ambulance. Her stomach was washed out and citric acid administered. Morphine was given for pain. On July 29th she left the hospital. On September 29th she was sent to the hospital by her attending physician for a gastrostomy. She was in a pitiable condition, being unable to swallow even fluids and had decreased in weight from 127 pounds to 94 pounds. I did not succeed the first day in passing the filiform bougie, but on October 1st passed it, and from that time to October 16th passed a bougie daily, increasing the size slowly till I succeeded in reaching a No. 26. The patient was rapidly gaining in flesh, being able to eat the regular hospital meals. Finding herself, as she supposed, entirely well she soon became intractable and left the hospital without permission October 16th.

I present these cases and this simple method of treatment, believing that the early adoption of this method of graduated double-bulbed bougies will, in a great many cases, render the performance of gastrostomy and retrograde dilatation unnecessary, even in some of the most serious cases.

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"WHAT IS THE USE OF MAKING A DIAGNOSIS IN NERVOUS DISEASES, SINCE NOTHING CAN BE DONE ANYWAY?"[1]

BY THEODORE DILLER, M.D.,
OF PITTSBURG.

THIS question is often asked, sometimes in jest, sometimes in earnest, and sometimes, I regret to say, with a sneer. In attempting a brief answer to it I shall disregard him who asks with a sneer and him who jokes, and address myself only to the serious man—and I see none other here tonight.

Those who ask this question believe that nervous diseases, at least those which are chronic, are incurable, and therefore contend that a discriminating diagnosis has no practical value. Some look on the neurologist as a pleasant enough gentleman, oftentimes chiefly or wholly engaged in the domain of pure science or pure speculation, much given to hair-splitting definitions, industrious enough, inordinately fond of new terms, diligent in his search for a diagnosis, and absolutely

[1] Read at the second annual banquet of the Physicians' Club of New Castle, Pa., August 20, 1901.

powerless and strangely disinterested when it is made.

The end of all our diagnosis, it is contended, is treatment; and this is true enough so far as it goes. But besides his duties in attempting to effect a cure, arrest or alleviation of the disease, a most important duty devolves upon the physician in making a prognosis and in giving advice calculated to protect the patient, his family, and the community generally from the results of the disease. With the prevention of nervous diseases, I do not propose to deal. Unfortunately, at the present time, the individual practising physician can do little or nothing toward this great end.

It is unfortunately true enough that many nervous diseases are thoroughly chronic and incurable; but of these there are only a few which may not in some degree—and sometimes in a large degree—be arrested or alleviated; and we must not forget that treatment of disease should include not only efforts to cure, but also those to arrest or alleviate. Indeed, it seems to me that the resources of the physician are much more and better tested in his management of chronic diseases than in his treatment of the so-called acute and curable diseases; for the latter all in themselves tend to effect a cure. We have only four or five specifics. According to Prof. Osler there are only a small number of typhoid-fever patients in whom the favorable outcome may be fairly attributed to the intelligent efforts of the physician. It seldom or never happens that the physician cannot, in truth, hold out some reasonable hope to the sufferer from chronic disease. A hope which, to a man in sound health, perhaps, would seem meager, indeed, is often, happily and mercifully, much to the victim of chronic disease.

No one can so well minister to the hope within the chronic invalid as the physician; and when the patient sees that the physician is bravely and hopefully fighting the disease with all his power, a comfort comes to him which can in no other way be obtained.

If we take, for example, such a chronic disease as tabes dorsalis, much can often be done in the way of arresting and alleviating the disease—so much indeed that I believe the physician's efforts here often count for more than they do in the so-called acute curable diseases. I have seen comfort brought to sufferers from paralysis agitans and progressive spinal muscular atrophy by the purely negative assurance that the patient need fear neither the advent of pains nor mental symptoms. In paralytic dementia, perhaps the most uniformly fatal of diseases, the patient is mercifully, as a rule, happy and contented; and here the friends can be safely assured that the patient is entirely unaware of his fatal malady and will go on to the end without pain.

Turning now from the question of treatment of chronic nervous diseases to the consideration of questions concerning the patient's social and business relations and the welfare of his family, we have brought before us at once problems of the most vital importance, for the proper answer of which a correct diagnosis (with a reasonable prognosis) is of vital importance.

There is certainly imposed upon the physician a grave responsibility when he is called upon to make a diagnosis in the case of any of the chronic nervous diseases. For such a diagnosis, with its attendant prognosis, means much or everything to the patient and his family—physically, mentally, socially, and financially. The sooner the disease is recognized, so much the better for the patient, his family, and physician, and for the reasons apart from actual treatment of the disease, *viz.*, that the patient and his family may accordingly shape their future course in the wisest manner. The non-recognition, on the other hand, may mean useless expense to the patient in the way of treatment, financial losses by continuance in business, foolish or extravagant expenditures, or failure to cut down expenditures or contemplated enterprises in a manner which would have been prudent had it been known that an incurable progressive disease existed.

The financial questions alone in these cases are of great importance, and the recognition of the chronic disease may sometimes mean the saving of a fortune. Many fortunes have been wholly or partially wrecked before the disease was recognized and appropriate measures instituted. I once examined a patient well advanced in paralytic dementia who, upon the advice of his physician, had spent two-thirds of his fortune in traveling with his wife through Europe in search of health; and I have known other cases where paretics spent much money in useless travel abroad, foolish purchases, and in the promotion of absurd ideas. A few years ago I saw a woman in whom the symptoms of paralytic dementia were all too clear. Her husband, who had, by hard saving, accumulated a little home, was strongly bent upon sacrificing it that he might place his wife in an expensive private sanitarium. He was told the fatal character of the disease and advised to procure a caretaker and keep his wife at home. He secured a woman attendant whom he paid $5 a week; and when his wife died a year later he still had his little home.

When we come to consider tabes dorsalis, the catalogue of errors in diagnosis which have been made are as numerous as the many types of this protean malady. Ptosis, optic atrophy, paralysis of bladder, gastric crises, and darting pains in the legs have all been treated separately as though diseases in themselves when they were only symptoms of tabes. In the presence of any of these symptoms it is always well for the physician to ask himself whether tabes be not present. A correct diagnosis can save meddlesome and useless treatment and needless expense—indeed, sometimes the distress which follows complete financial wreckage—to say nothing of the vantage point it gives the patient or his friends to shape his course for the future. I think it must be admitted that the correct diagnosis is "of use" even if, for the sake of the argument, it be admitted that "nothing can be done" by treatment.

Again, a diagnosis is "of use" for the reason that some nervous diseases—too few, I regret to say—are curable and in all of them proper treatment is of the greatest importance. I need only mention the various forms of neuritis, brain abscess, myelitis, meningitis, cerebrospinal syphilis, and several of the insanities, chorea, hysteria, and neurasthenia. It is quite as unfortunate to make the diagnosis of a chronic nervous disease when none exists as is the contrary error. Every now and then we see multiple neuritis mistaken for tabes dorsalis; and many of the reported cures of the latter disease are really cases of neuritis. The non-recognition of brain abscess, when there are sufficient symptoms to indicate its presence, is a serious error, since proper treatment, *viz.*, operation, is often the means of saving life.

While the diagnosis of nervous diseases is "of use" to the patient and his family from the standpoints of treatment and prognosis, it is also "of use" to the physician himself, in saving him from the reproach which often attaches to an incorrect or long-delayed diagnosis. Moreover, for the sake of his own mental training and his conscience, the physician should always endeavor to arrive at a correct diagnosis. On this ground alone it is worth while to make a correct diagnosis in cases of nervous disease.

I believe that from the study of nervous diseases a man may obtain a peculiar mental training, hardly to be had in any other way, in the powers of observation and logical deduction that is of the greatest value to him in the diagnosis of all other diseases. The study of nervous diseases is to the physician what the study of Latin and Greek is to the college student; it gives general training of the mind and has a wide range of applicability in all his study and work.

It not rarely happens that the diagnosis of a nervous disease is beset with many difficulties; and each of us could doubtless tell of a list of blunders; my own list, I confess, is long. On account of many of these errors, but little blame can be attached to the physician if he has made an honest effort; for many nervous diseases present a very variable picture and others occur so rarely that a case may be seen only once in many years of practice. But there is one blunder which a few physicians make to which nothing but censure can, I believe, be attached. I refer to the blunder of treating a patient week after week or month after month without making a diagnosis at all or making the diagnosis (which is the same thing) of "some obscure nervous disease," without seeking the counsel of a brother physician and with the lame excuse that there is "no use in making a diagnosis in nervous diseases, since nothing can be done anyway."

Whooping Cough's Ravages in New Guinea.—The report of Lieutenant-Governor of British New Guinea states that owing to the introduction from Samar of whooping cough by two white children lives innumerable have been and are still being sacrificed.

A PRELIMINARY NOTE ON THE STERILIZATION OF CATHETERS: A BACTERIOLOGICAL STUDY.

BY C. B. NANCREDE, M.D.,
AND
W. H. HUTCHINGS, M.D.,
OF ANN ARBOR, MICH.

The title of this communication strictly defines the scope of the paper, it being merely a preliminary note, not a completed study of a very complicated subject.

Many observers have instituted investigations on the same lines, but the varying results obtained emphasize the important fact that, although in many instances sterilization is readily effected, under other, apparently identical, conditions failure has resulted. A number of our experiments show the uncertainty in respect to the time requisite for the action of sterilizing agents and plainly demonstrate that all of us must have often employed unsterilized catheters when believing the reverse to be true.

It can hardly be doubted that, if a new catheter is used for each patient, provided it is mechanically cleansed with care before and after using and kept in a supposedly germicidal solution, asepsis—or at least an inhibited condition of any germs present—will be practically secured. Unfortunately, too often the same catheter is employed for a number of patients. A little blood, mucus or muco-pus coagulates or partially dries in the lumen of the instrument, many makes of which are so constructed as to favor such accumulations, and the catheter is simply rinsed off in a perfunctory manner, laid aside only to be thrown for a few moments into a solution of a reputed chemical germicide, and is then confidently inserted into the healthy bladder of a new patient.

The details of the sixty-five experiments will not be given here. The methods of contamination will be stated, those employed to determine success or failure given, the sterilizing agents employed mentioned, and the lessons taught formulated, so far as the evidence warrants dogmatic statements. It is proposed to continue our observations in order to correct any errors, as well as to add force to our present conclusions if they prove to be well founded.

To insure as uniform results as possible, tubes of bouillon, to which a known quantity of one of the varieties of germs recognized as causative of cystitis had been added, were incubated for from twenty-four to forty-eight hours. New catheters were then immersed in this infected bouillon for five minutes, drained, and carefully and aseptically dried. After being subjected to the sterilizing agents, pieces of these infected catheters, or whole catheters, were introduced into sterilized receptacles containing culture media and incubated for from twenty-four to forty-eight hours. The germs employed were the staphylococcus pyogenes aureus, the bacillus pyocyaneus, the bacillus coli communis, and the streptococcus pyogenes. Those wishing to

study our methods *in extenso* will find appended to this report a brief account of all experiments to date. Owing to certain inherent difficulties in neutralizing carbolic acid, our experiments with this agent are not yet completed.

The most superficial study of cystitis will show how important the question of efficient sterilization of catheters has become, for such a study will show that a large majority of inflammations of the bladder result from infection conveyed by a surgically-unclean catheter, sound or bougie, hence are preventable. Although these instruments may, indeed, be contaminated by non-sterilized hands, the infected external genitalia of the female, or the urethra—especially from the latter in the male—yet all such sources of infection may be easily eliminated, while the sterilization of instruments is certainly often not attained. The desiderata in the way of sterilization of catheters are certainty, rapidity, and availability, for in private practice facilities readily obtainable in a hospital are rarely available.

None can question the superiority of heat for purposes of sterilization, especially moist heat, which if properly employed will secure perfect asepsis, yet with all the alleged certainty and facility with which this agent can be employed, Experiments 18, 27, 36 and 38 show that we can readily fall into error, and that a catheter thus imperfectly sterilized if tied into a bladder in order to maintain permanent drainage is extremely liable to give rise to cystitis.

The certainty with which metal and glass catheters can be sterilized by prolonged boiling is well known, but it is not believed by most that any soft rubber (Nelaton) catheter and most English (elastic) catheters can also be repeatedly boiled for five or more minutes without impairing their polish, strength or ductility.

Unfortunately, the chemical method of sterilizing catheters is the one too commonly employed for all varieties of instruments. We say, unfortunately, because too often it is inefficient in securing genuine asepsis as instanced by Experiments 60, 61, 62 and 63. Moreover if these chemical agents are not completely removed from the lumen of the instruments, practical cauterization of the deep urethra occurs or intense irritation of the bladder follows, as we have seen in more than one instance. It will now best serve the objects we have in view to read the conclusions arrived at, and then make a few comments of practical clinical value.

1. An infected soft rubber catheter cannot be completely sterilized by boiling under four and one-half minutes.

2. Mechanical cleansing from all dried pus, coagulated blood or mucus will render sterilization easier and will demand a shorter time to be effective.

3. Elastic (English web) catheters and soft rubber catheters can be repeatedly boiled for five or more minutes without roughening of their surfaces or diminution of their elasticity and strength.

4. Chemical sterilization by immersion in a 1:2000 mercuric chloride solution for five minutes does not sterilize any variety of catheter *which has become infected,* at best only inhibiting the growth of the germs, for if the mercuric salt be precipitated by ammonium sulphide the germs will grow freely when implanted in culture media, as shown in Experiments 60 to 63.

5. The results of experiments, as stated in the previous conclusion, indicate that chemical sterilization should never be employed for catheters which are to be retained in the bladder for any length of time, unless subjected to a very prolonged action of the mercurial salt, lest the merely inhibited germs develop.

6. Should corrosive sublimate be employed for the sterilization of catheters, it must be in a concentrated solution and the catheter must remain in it for a much longer time than the usual period considered amply sufficient in the laboratory, no mere washing with any chemical solution being efficient for *an infected instrument.*

7. Formalin vapor will sterilize infected instruments in twenty-four hours (see Experiment 64); how much shorter time will be sufficient we have not as yet determined but propose to do so in the future.

8. All methods of sterilization commonly employed should be continued for much longer periods than the minimum time required for destruction of germs in the laboratory.

9. English web catheters can apparently be more readily sterilized by heat than can soft rubber catheters, probably on account of their interior construction.

In commenting upon these tentative conclusions which we believe our experiments warrant us in drawing, we would point out that the germs employed are probably even less resistant to sterilizing agents than are those of the same species actually contaminating catheters which have been employed for cases of cystitis, because of the well-known loss of virulence of germs long cultivated upon artificial media. We propose to remedy this defect in our future experiments by procuring germs from actual cases of cystitis, when we will doubtless recognize the justice of the statement of Guyon to the effect that to insure sterilization of an infected catheter thirty minutes' boiling is requisite.

The object of this preliminary note will have been secured if the attention of the profession is called to the fact that we are often deluding ourselves by overlooking the vastly different results secured in the laboratory, where every individual germ is equally exposed to the action of the germicidal agent, and the usually very opposite conditions embarrassing us in practice; the great difference existing between the virulence of two different specimens of the same species of germs; and that apparent destruction of germs may mean only their inhibition, which is equivalent to the statement "that under peculiar circumstances these germs may multiply to a dangerous extent."

Conclusions founded upon such incorrect data unfortunately lead to disastrous results in practice, many a case of fatal cystitis following the loss of faith of practitioners in the efficacy of the precautions advocated by prominent men, the error not being in the methods, but because those teaching them are not bacteriologists as well as surgeons, hence do not appreciate the importance of many of the minute details which are the precautions necessary to eliminate not the usual but the *unusual* causes of failure.

"A little knowledge is a dangerous thing," and it ill befits any one not thoroughly versed in bacteriological investigations to either belittle the work of such surgeons or needlessly vary from the directions which they insist must be followed to secure the best results.

Experiments with Sterilization of Catheters.

Germs used in these experiments were pure cultures of colon bacillus, staphylococcus pyogenes aureus, and bacillus pyocyaneus and streptococcus pyogenes, obtained from the Hygienic Laboratory. Known quantities of these germs were put in bouillon and grown in incubator at 37.5° C. for twenty-four hours. The catheters used were immersed in these cultures for five minutes, were then removed with sterile instruments, and placed in sterile dishes and allowed to dry. They were then subjected to the sterilization process after which they were placed in sterile bouillon and incubated twenty-four to forty-eight hours.

Experiment No. 1.—Catheter inoculated with streptococcus pyogenes boiled ½ minute showed growth at end of twenty-four hours;

Experiment No. 2.—Catheter inoculated with streptococcus pyogenes boiled 1 minute showed growth at end of twenty-four hours;

Experiment No. 3.—Catheter inoculated with streptococcus pyogenes boiled 1½ minutes showed no growth at end of twenty-four hours;

Experiment No. 4.—Catheter inoculated with streptococcus pyogenes boiled 2 minutes showed no growth at end of twenty-four hours;

Experiment No. 5.—Catheter inoculated with streptococcus pyogenes boiled 2½ minutes showed no growth at end of twenty-four hours;

Experiment No. 6.—Catheter inoculated with streptococcus pyogenes boiled 3 minutes showed no growth at end of twenty-four hours;

Experiment No. 7.—Catheter inoculated with streptococcus pyogenes boiled 3½ minutes showed no growth at end of twenty-four hours;

Experiment No. 8.—Catheter inoculated with streptococcus pyogenes boiled 4 minutes showed no growth at end of twenty-four hours;

Experiment No. 9.—Catheter inoculated with streptococcus pyogenes boiled 4½ minutes showed no growth at end of twenty-four hours;

Experiment No. 10.—Catheter inoculated with streptococcus pyogenes boiled 5 minutes showed no growth at end of twenty-four hours;

Experiment No. 11.—Catheter inoculated with colon bacillus boiled ½ minute showed growth at end of twenty-four hours;

Experiment No. 12.—Catheter inoculated with colon bacillus boiled 1 minute showed no growth at end of twenty-four hours but did at end of forty-eight hours;

Experiment No. 13.—Catheter inoculated with colon bacillus boiled 1½ minutes showed no growth at end of twenty-four hours but did at end of forty-eight hours;

Experiment No. 14.—Catheter inoculated with colon bacillus boiled 2 minutes showed no growth at end of twenty-four hours but did at end of forty-eight hours;

Experiment No. 15.—Catheter inoculated with colon bacillus boiled 2½ minutes showed no growth at end of twenty-four hours but did at end of forty-eight hours;

Experiment No. 16.—Catheter inoculated with colon bacillus boiled 3 minutes showed no growth at end of twenty-four hours and no growth at end of forty-eight hours;

Experiment No. 17.—Catheter inoculated with colon bacillus boiled 3½ minutes showed no growth at end of twenty-four hours and no growth at end of forty-eight hours;

Experiment No. 18.—Catheter inoculated with colon bacillus boiled 4 minutes showed no growth at end of twenty-four hours, showed growth at end of forty-eight;

Experiment No. 19.—Catheter inoculated with colon bacillus boiled 4½ minutes showed no growth at end of twenty-four hours, showed no growth at end of forty-eight hours;

Experiment No. 20.—Catheter inoculated with colon bacillus boiled 5 minutes showed no growth at end of twenty-four hours, no growth at end of forty-eight hours;

Experiment No. 21.—Catheter inoculated with staphylococcus pyogenes aureus boiled ½ minute showed growth at end of twenty-four hours;

Experiment No. 22.—Catheter inoculated with staphylococcus pyogenes aureus boiled 1 minute showed no growth at end of twenty-four hours;

Experiment No. 23.—Catheter inoculated with staphylococcus pyogenes aureus boiled 1½ minutes showed no growth at end of twenty-four hours, no growth at end of forty-eight hours;

Experiment No. 24.—Catheter inoculated with staphylococcus pyogenes aureus boiled 2 minutes showed no growth at end of twenty-four hours, no growth at end of forty-eight hours;

Experiment No. 25.—Catheter inoculated with staphylococcus pyogenes aureus boiled 2½ minutes showed no growth at end of twenty-four hours, no growth at the end of forty-eight hours.

Experiment No. 26.—Catheter inoculated with staphylococcus pyogenes aureus boiled 3 minutes showed no growth at end of twenty-four hours, no growth at end of forty-eight hours;

Experiment No. 27.—Catheter inoculated with staphylococcus pyogenes aureus boiled 3½ minutes showed no growth at end of twenty-four hours, growth at end of forty-eight hours;

Experiment No. 28.—Catheter inoculated with

staphylococcus pyogenes aureus boiled 4 minutes showed no growth at end of twenty-four hours, no growth at end of forty-eight hours;

Experiment No. 29.—Catheter inoculated with staphylococcus pyogenes aureus boiled 4½ minutes showed no growth at end of twenty-four hours, growth at end of forty-eight hours;

Experiment No. 30.—Catheter inoculated with staphylococcus pyogenes aureus boiled 5 minutes showed no growth at end of twenty-four hours, no growth at end of forty-eight hours;

Experiment No. 31.—Catheter inoculated with bacillus pyocyaneus boiled ½ minute showed growth at end of twenty-four hours;

Experiment No. 32.—Catheter inoculated with bacillus pyocyaneus boiled 1 minute showed growth at end of twenty-four hours;

Experiment No. 33.—Catheter inoculated with bacillus pyocaneus boiled 1½ minutes showed no growth at end of twenty-four hours, showed growth at end of forty-eight hours;

Experiment No. 34.—Catheter inoculated with bacillus pyocyaneus boiled 2 minutes showed no growth at end of twenty-four hours, growth at end of forty-eight hours;

Experiment No. 35.—Catheter inoculated with bacillus pyocyaneus boiled 2½ minutes showed no growth at end of twenty-four hours, growth at end of forty-eight hours;

Experiment No. 36.—Catheter inoculated with bacillus pyocyaneus boiled 3 minutes showed no growth at end of twenty-four hours, growth at end of forty-eight hours;

Experiment No. 37.—Catheter inoculated with bacillus pyocyaneus boiled 3½ minutes showed no growth at end of twenty-four hours, no growth at end of forty-eight hours;

Experiment No. 38.—Catheter inoculated with bacillus pyocyaneus boiled 4 minutes showed no growth at end of twenty-four hours, no growth at end of forty-eight hours;

Experiment No. 39.—Catheter inoculated with bacillus pyocyaneus boiled 4½ minutes no growth at end of twenty-four hours, no growth at end of forty-eight hours;

Experiment No. 40.—Catheter inoculated with bacillus pyocyaneus boiled 5 minutes showed no growth at end of twenty-four hours, no growth at end of forty-eight hours;

Experiment No. 41.—Inoculated English (web) catheter with colon bacillus boiled ½ minute showed no growth at end of forty-eight hours;

Experiment No. 42.—Inoculated English (web) catheter with colon bacillus boiled 1 minutes showed no growth at end of forty-eight hours;

Experiment No. 43.—Inoculated English (web) catheter with colon bacillus boiled 1½ minutes showed no growth at end of forty-eight hours;

Experiment No. 44.—Inoculated English (web) catheter with colon bacillus boiled 2 minutes showed no growth at end of twenty-four hours;

Experiment No. 45.—Inoculated English (web) catheter with staphylococcus pyogenes aureus boiled ½ minute showed no growth at end of forty-eight hours;

Experiment No. 46.—Inoculated English (web) catheter with staphylococcus pyogenes aureus boiled 1 minute showed no growth at end of forty-eight hours;

Experiment No. 47.—Inoculated English (web) catheter with staphylococcus pyogenes aureus boiled 1½ minutes showed no growth at end of forty-eight hours;

Experiment No. 48.—Inoculated English (web) catheter with staphylococcus pyogenes aureus boiled 2 minutes showed no growth at end of forty-eight hours;

Experiment No. 49.—Inoculated English (web) catheter with staphylococcus pyogenes aureus boiled 2½ minutes showed no growth at end of forty-eight hours;

Experiment No. 50.—Inoculated English (web) catheter with streptococcus pyogenes boiled ½ minute showed no growth at end of forty-eight hours;

Experiment No. 51.—Inoculated English (web) catheter with streptococcus pyogenes boiled 1 minute showed no growth at end of forty-eight hours;

Experiment No. 52.—Inoculated English (web) catheter with streptococcus pyogenes boiled 1½ minutes showed no growth at end of forty-eight hours;

Experiment No. 53.—Inoculated English (web) catheter with streptococcus pyogenes boiled 2 minutes showed no growth at end of forty-eight hours;

Experiment No. 54.—Inoculated English (web) catheter with streptococcus pyogenes boiled 2½ minutes showed no growth at end of forty-eight hours;

Experiment No. 55.—Inoculated English (web) catheter with bacillus pyocyaneus boiled ½ minute showed no growth at end of forty-eight hours;

Experiment No. 56.—Inoculated English (web) catheter with bacillus pyocyaneus boiled 1 minute showed no growth at end of forty-eight hours;

Experiment No. 57.—Inoculated English (web) catheter with bacillus pyocyaneus boiled 1½ minutes showed no growth at end of forty-eight hours;

Experiment No. 58.—Inoculated English (web) catheter with bacillus pyocyaneus boiled 2 minutes showed no growth at end of forty-eight hours;

Experiment No. 59.—Inoculated English (web) catheter with bacillus pyocyaneus boiled 2½ minutes showed no growth at end of forty-eight hours;

Experiment No. 60.—Inoculated English (web) catheter with colon bacillus placed in bichloride of mercury, 1 to 2,000, for five minutes; rinsed thoroughly in sterile water, put in bouillon into which gas generated by heating

ammonium sulphide was passed through a sterile tube, thus forming a compound which is neutral to bacteria. Put in incubator, growth at end of twenty-four hours;

Experiment No. 61. — Inoculated English (web) catheter with staphylococcus pyogenes aureus and bacillus pyocyaneus was placed for five minutes in 1:2,000 bichloride-of-mercury solution; was then thoroughly rinsed in sterile water, was placed in bouillon through which gas generated by heating ammonium sulphide was passed through a sterile tube. Placed in incubator. At end of twenty-four hours growth occurred;

Experiment No. 62. — Inoculated English (web) catheter with bacillus pyocyaneus was placed for five minutes in 1:2,000 bichloride-of-mercury solution, was then thoroughly rinsed in sterile water, placed in bouillon through which gas generated by heating ammonium sulphide was passed through a sterile tube. Placed in incubator, growth occurred at end of twenty-four hours;

Experiment No. 63. — Inoculated English (web) catheter with streptococcus pyogenes placed in bichloride of mercury, 1:2,000, for five minutes; rinsed thoroughly in sterile water, put in bouillon into which gas generated by heating ammonium sulphide was passed through a sterile tube, incubated, growth was observed at end of twenty-four hours;

Experiment No. 64.—English (web) inoculated with colon bacillus dried by passing air over it which has been aspirated through sulphuric acid, put in vapor formaldehyde twenty-four hours; there was no growth at end of twenty-four hours;

Experiment No. 65.—English (web) catheter boiled in tap water five minutes at a time on ten successive days, was in as good condition as in the beginning.

HYGIENE AND HYGIENIC LEGISLATION.

BY W. SCHEPPEGRELL, A.M., M.D.,

OF NEW ORLEANS, LA.;

EX-VICE-PRESIDENT OF THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTO-LARYNGOLOGICAL ASSOCIATION; EX-PRESIDENT OF THE WESTERN OPHTHALMOLOGIC AND OTO-LARYNGOLOGIC ASSOCIATION, ETC.

As bacteriology has traced out the origin of one infectious disease after another, it has also pointed out the intelligent means of combating disease. If tuberculosis of the lungs is due to the presence and activity of Koch's bacillus in the pulmonary tissue, and if the bacillus outside of the body is chiefly found in the sputum of persons affected with this disease, and if the inhalation of the dried product of such sputum is capable of infecting persons susceptible through inheritance, lowered vitality or other causes, to tuberculous disease, then the duty of the hygienist is clearly defined. These premises have been clearly demonstrated and are now accepted by the medical profession; hence it is our duty to use every means in our power to destroy the infectious character of the sputum, and to minimize its distribution where it can effect harm. Among the latter methods none is more valuable than the "Municipal Control of the Spitting Habit."

The potentiality for evil due to promiscuous expectoration in public halls, theaters and other places of amusement, is recognized by physicians generally, but it is accepted with incredulity by a large majority of the laity. This is principally due to the fact that the masses believe that tuberculosis, which is the principal and most fatal disease that may be conveyed in this manner, is due entirely to inheritance, not realizing that inheritance in these cases may mean simply a susceptibiiity and that infection is the main cause of one member after another of the family being affected by the disease when once it has developed in the household. Another potent reason for this incredulity is that the incubation of tuberculous disease is so long that the connection between the cause and effect is difficult and sometimes impossible to trace. Clinical experience, bacteriological research and physiological experiments have, however, established these facts so firmly, that they have been generally accepted by the medical profession.

As illustrating the present tendency toward hygienic advancement, we find that some cities have already enacted laws prohibiting promiscuous expectoration among which are the following: New York and Brooklyn, Newark, Columbus, Cleveland, San Francisco, Pittsburg, Washington, D. C., Rochester, Louisville, and Baltimore. Within the last month New Orleans has been added to this list, and as the history of this hygienic victory may not be without interest, and as, moreover, it may encourage other efforts in this direction, the main points of the discussion will be given.

On February 20, 1901, I read before the Orleans Parish Society a paper entitled "Dust as a Factor in Diseases of the Upper Respiratory Passages," in which I called attention, among other considerations, to the danger of contracting disease from the inhalation of dust infected with sputum of persons suffering from tuberculosis and other diseases. After the conclusion of this paper, the society unanimously passed resolutions favoring the municipal regulation of the spitting habit, and appointed a committee to urge the City Council of New Orleans to enact an ordinance protecting citizens from the injurious effects of promiscuous spitting and expectoration. On March 4, 1901, the president appointed Drs. Scheppegrell and Storck to this committee. At the date of the appointment of this committee there was pending before the City Council the Moss ordinance which practically covered the regulations desired by the Orleans Parish Medical Society, and the committee quietly awaited developments as its passage would secure the desired object. This ordinance was passed by the City Council. At the next meeting, however, it was vetoed by the Mayor,

the City Council sustaining his veto, and the ordinance was defeated. A few days later this committee, accompanied by Dr. William Brickell, called on the Mayor and expressed its regret that he should have found it necessary to veto an ordinance to which the committee attached such importance, and requested to know what his objections were. The Mayor, in the most courteous manner, explained that he had vetoed the ordinance on account of the impossibility of enforcing that part which referred to sidewalks. Without admitting the validity of this objection, the committee enquired if, this feature being omitted, he would no longer oppose the enactment of this ordinance, to which the Mayor agreed.

Having had the ordinance prepared in the regular legal manner by the City Attorney, it was placed in the hands of Councilman O'Connor to be introduced at the next meeting of the Council. In the meanwhile, a circular letter was sent to each councilman, explaining the hygienic value of the proposed ordinance, and requesting for it a favorable consideration.

At the next meeting of the Council, Mr. O'Connor, as agreed, introduced the ordinance which, according to rule, was referred to the "Committee on Law and Order." At the meeting of this committee, the amendment referring to "sidewalks and banquettes" was introduced, which had been the cause of the Mayor's veto in the previous (Moss) ordinance. I had a conference with Mayor Capdevielle on this subject, and he stated that if this amendment were left he would again use his veto power to defeat the ordinance.

I made an effort to have this amendment omitted, not because it was not an excellent provision, but because it jeopardized the passage of the entire ordinance. This proved unavailing, however, and it was hoped that the City Council would take action on the Minority Report in which the amendment was omitted. This was not the case, however, and the Council passed the ordinance including the amendment.

When the report of the meeting was published the following position presented itself: As the Mayor has vetoed the previous ordinance he could consistently do but likewise to the present ordinance. If, however, this ordinance was not passed, there would be little possibility of obtaining the benefit of any part of it during the remaining three years of the present administration, as the Council had in two instances shown its determination to let the whole ordinance stand or fall on its merits. The only hope, then, was to obtain for the ordinance such a weight of public opinion and to place its advantages in so strong a light, that it would become a law in spite of all opposition. When it is understood that every newspaper of New Orleans was opposed to the ordinance and freely expressed this opinion in their editorials, it will be seen that the task was no light one.

The morning after the meeting of the Council, the *Picayune,* one of the most prominent newspapers of New Orleans, published an editorial attacking the proposed ordinance. It stated that the ordinance would cause only trouble to the people, could not be inforced and that there were many other matters of more importance which were neglected by the Council in its zeal for impracticable hygienic laws. As this offered a fair opportunity for presenting the value of the proposed ordinance, I made in the next issue the following reply, which the paper entitled "Lecture on Spit and Sputum."

"To the Editor of the *Picayune:* I note with much surprise and regret your opposition to the ordinance prohibiting the spitting on the floors of public halls, theaters and other places of amusement and on sidewalks, which was passed by the City Council last night. As the Mayor was opposed to the last clause of this ordinance, it might have been more expedient to have omitted this for the present, but there can be no question that the whole ordinance is a distinct advance in hygiene and sanitation, and thus places us in line in this direction with New York and Brooklyn, Newark, Columbus, Cleveland, San Francisco, Pittsburg, Washington, D. C., Rochester, Louisville and Baltimore, each of which has a similar law on this subject.

"That there are many other matters that require legislative regulation, as you observe, is unquestionable, but there is certainly none which is as important as the ordinance which was passed by the City Council at its meeting last night. The difficulties which have been suggested in the enforcement of such an ordinance seems to have been overestimated. In the first place, women, as a class, do not spit on the floors of public halls, theaters and other places of amusement, or on sidewalks, and yet these are the ones who suffer the most from such practices. In the second place, gentlemen do not spit on the floors of their own homes, nor will they on the floors of theaters and other places of amusement when the expectoration will soil the skirts of the ladies whom they accompany or of ladies escorted by others. For persons who are polite only when compelled by law, there is always an officer in attendance at all the theaters. This ordinance may prove a temporary hardship for those suffering from colds, etc., but it is better for them to use a few extra handkerchiefs than to soil the clothes of the lady, and endanger the health of all present. Similar hardship exists in cases of smallpox, diphtheria, scarlet fever, etc., but we rarely hear persons advocating the rescinding of these laws which are burdensome to the patient, no doubt, but which are necessary for the public welfare.

"Regarding the spitting on sidewalks, the difficulty of enforcement appears also to be overestimated. Persons do not spit on sidewalks for personal gain, as is the case with robbers, nor in a passion, as is the case of those who fight or quarrel; it is done simply from carelessness, indifference, or through ignorance of the laws of

hygiene. The very existence of such an ordinance would, therefore, be sufficient to prevent law-abiding persons from spitting on the sidewalks, just as the existence of an ordinance preventing the spitting on car floors has decreased this nuisance, although no effort has yet been made to enforce it. There is no restriction in the ordinance against using the gutters for this purpose. It should be remembered in this connection that the danger of infection from consumption and other diseases through expectoration in the open air is materially different from that in rooms, theaters, etc. In the latter, the dried infective sputum spreads with the dust and may prove a source of danger for weeks and even months. Out of doors, however, the action of the sun is to destroy the infective character of the expectorated matter, the rain to wash it away, and the winds to attenuate it so much that the risk of infection bears no comparison to the inhalation of infective dust indoors. The greatest danger, omitting the question of decency and the unpleasant impression given by the sidewalks of some of our most prominent streets, is that the expectorated material will be swept up by the skirts of the ladies who may thus not only infect themselves, but may, indirectly, form a source of infection for the entire household.

"From a hygienic standpoint, there can no longer be any doubt of the possibility of infection from the sputum of consumption and many other diseases. These are not simply theoretical deductions, but they have been established by clinical observations and by experiment. As showing the general acceptance of this subject, I will quote a few paragraphs from the report of a recent meeting of the State Board of Health:

" 'The Contagiousness of Consumption.—The erroneous idea has long prevailed that consumption is always hereditary. The disease is hereditary only in an infinitesimal proportion of cases. The fact cannot be too strongly impressed upon the public that, in almost every instance, the disease is derived from the excretions of some individual affected with consumption.

"How Consumption is Disseminated.—The cause of this malady is a microscopic germ whose scientific name is the bacillus tuberculosis. All matters expectorated by a person afflicted with consumption contain legions of these bacilli, which retain their vitality even after the drying of the sputum, and to their diffusion may be attributed the spread of the disease.

" 'By Inhalation.—The sputum is expectorated on the sidewalk, street, ground, floor of theater, schoolroom or street car—in fact, anywhere—and, after drying, mingles with the atmosphere, and may develop the disease in persons susceptible to the disease, or whose normal resistance has been lowered from illness or other cause.' "

"The Orleans Parish Medical Society also in a recent meeting, unanimously passed resolutions requesting the City Council to pass an ordinance prohibiting the spitting on the floors of public halls, theaters and other places of amusement, and appointed a special committee to further this object.

"Even if there were some difficulty in the last clause of the ordinance, it is to be hoped that the benefit of the remaining part of the ordinance will not be sacrificed by its repeal. As a matter of fact, New Orleans cannot afford to do so. To spend millions of dollars for drainage and sewerage to improve its hygiene, and then deliberately cancel a law which to the hygienist is of equal importance and costs practically nothing, would be inconsistent and would make us the subject of ridicule.

"A few days ago the following telegraphic dispatch appeared in our daily papers:

" 'The Americans are to be congratulated also on the excellent sanitary conditions throughout Havana. Modern sanitation has been carried into every house. The streets are kept scrupulously clean, garbage is systematically removed, and not only the public but all private localities are kept in the best sanitary condition. This alone speaks much for the beneficial influence which the Americans exerted.'

"It would appear from this that our missionary work is more successful and meets with less resistance than our home efforts.

"W. SCHEPPEGRELL, M.D.,

"Chairman, Committee on Hygienic Legislation,
Orleans Parish Medical Society.

"New Orleans, April 10, 1901."

In the foot-note to this communication, the editor claims that I had not read the editorial carefully, or I would have seen that the *Picayune* was not opposed to the ordinance. Without debating these premises, the statement that the *Picayune* was not opposed was a strong point gained.

Desiring to show the views of the medical profession on this subject and believing that this would be of great weight, I requested Mr. Page Baker, the editor of the *Times-Democrat,* to send reporters to interview prominent physicians on this subject, giving the names of the president of the Orleans Medical Society, the president of the State Medical Society, and others. These interviews appeared in the *Times-Democrat* the following morning, although a number of the physicians named were not interviewed, probably on account of the difficulty of finding them at leisure. While the interviews with some of the physicians gave the editor material for a vigorous editorial against the ordinance, I believe that the general effect was good, especially the interviews with Dr. Edmond Souchon, President of the Board of Health, and Prof. Rudolph Matas.

As stated, the editor of the *Times-Democrat* found sufficient material in the interviews to criticize the ordinance adversely, and this I answered the following morning (April 13th) giving a synopsis of the interviews and showing that their general tendency was in favor of the

ordinance and giving historical proofs of its practicability:

"To the Editor of the *Times-Democrat:*

"I have read with careful attention your editorial criticism of the anti-spitting ordinance in to-day's issue of the *Times-Democrat.* I also note the interviews with physicians regarding this ordinance.

"A careful criticism will show that none of those interviewed are actually opposed to the ordinance, and the great majority favor its adoption.

"After carefully analyzing the opposition that has been brought against the anti-spitting ordinance, it seems to be generally admitted, even by those who do not favor it, that the regulations are useful, but that they are difficult or impossible to enforce.

"Regarding this point, I would call attention to the fact that the amended City Ordinance No. 13,073, C. S., of February 3, 1897, prohibiting the spitting on the floors of street cars, has resulted in materially improving the condition of our cars, and yet no effort has ever been made to enforce the ordinance. The moral effect of an existing law was all sufficient.

"Referring again to your criticism, it would seem that the literature of the opposition to such an ordinance must be extremely meager when both the *Times-Democrat* and the *Picayune* can find only the same quotation, viz., the report of the cases before Magistrate Olmstead of New York. This is in reality the highest praise that could be brought in favor of the ordinance, that the two largest daily papers of the South, with their immense exchanges and facilities for intercourse, should have been able to find only this solitary objection to such a hygienic measure.

"The literature on the other side of the question, however, is much richer. The greater number of the large cities of the United States have such an ordinance, many of which have been in existence for years, among which may be mentioned, in addition to New York and Brooklyn, Newark, Columbus, Cleveland, San Francisco, Pittsburg, Washington, D. C., Rochester, Louisville, Denver, and others. Nor do we need go so far from home to find cities advanced in hygienic matters. Our neighbor, Mobile, has had such an ordinance for over a year, and is having it rigidly enforced. The effect has been excellent, and George H. Heakes, a native of Mobile, who represents a large manufacturing interest, states that it is considered a valuable regulation.

"There is no need of awaiting the experience of New York in regard to such an ordinance, as it has already been in existence for years in many cities and has caused practically no friction, as the meagerness of the evidence against its enforcement forms the best evidence. Not only have they been enforced, but they have been sustained by the courts, as in the cases before the courts of Newark and San Francisco.

"Your suggestion to have the ordinance recommitted for amendment is impracticable, as the City Council has in two instances indicated its determination to pass the complete ordinance.

"As in the case of the ordinance regulating street cars, it would require but little enforcing, and the claim that there are not sufficient police for this purpose would apply equally to the cars. Even at the utmost, one fine would have so salutary an effect that we would hear but little further of the practice, as it certainly is no great hardship for a man to spit in the gutter, instead of on the sidewalk, and this seems to be the sum total of all the objections to the whole ordinance.

"As I have elsewhere stated, we cannot afford to reject this ordinance. New Orleans is being favorably commented upon over the entire Union for its manly efforts for sanitary advancement. To reject this ordinance, the importance of which is acknowledged by all hygienists, and to spend millions of dollars for drainage and sewerage would be inconsistent. That it may make us the subject of ridicule will appear from the following quotation from an interesting article by Dr. Elmar B. Borland of Pittsburg, in the *Journal of the American Medical Association:*

" 'Poor St. Augustine! This ancient landmark answered the writer's inquiries (regarding the municipal regulation of the spitting habit) thus: "Our native people would consider such an order an insult to their dignity. Cannot stop a Florida cracker from spitting." May we interpret from this answer that these people love darkness rather than light?'

W. Scheppegrell, M.D.,

"Chairman Committee on Hygienic Legislation, Orleans Parish Medical Society.

" New Orleans, April 12, 1901. "

In the meanwhile, desiring to bring to our aid a factor which is highly interested in such a law and which suffered most from the practices which the ordinance was intended to prohibit, I requested Mrs. L. M. Horner, the energetic and public-spirited president of the Local Council of Women of New Orleans, to present to the public the woman's side of this question, and in her excellent letter on this subject in the *Times-Democrat* of the 14th she fully realized my anticipation.

The letter which I had published on April 13th was the subject of criticism in an editorial of the same issue of the *Times-Democrat*, and the editor maintained that it was impossible to enforce the ordinance prohibiting spitting on the sidewalks as it was in the street-cars.

In the issue of Sunday, the 14th, the *Times-Democrat* again published an editorial against the proposed ordinance, following generally the lines which have already been given. The following day I answered these, showing that while no efforts had as yet been made to enforce the ordinance prohibiting spitting on the floors of street-cars, it had been productive of much benefit to the community, as shown by the improved condition of our street-cars. It also called attention to the fact that some portion of the enormous death-rate from tuberculosis must be due to the

neglect of such hygienic measures and that it would, therefore, be a grave and unjustifiable responsibility to reject this ordinance on account of some possible difficulty in its enforcement:

"To the Editor of the *Times-Democrat:* I have read with care your editorial in answer to my communication in favor of the anti-spitting ordinance. I do not dispute the fact that the *Times-Democrat* has always favored sanitation and hygiene, and it is precisely on this account that I am surprised that it has taken the present position regarding the ordinance at issue. The question of whether such a law be efficacious is not a matter of personal belief; it has been demonstrated to be a fact by the majority of the larger cities, as I have shown in my last communication. That so large a daily paper, which has always been in the vanguard of every movement for the benefit of New Orleans, should clog the wheels of hygienic progress is a source of no little surprise.

"While your editorial is written in your usual concise and logical style, it has not answered the propositions which I submitted. It has discussed practically only the parallel case of the ordinance to which notice is called on the street cars. I am therefore justified in considering the other points as admitted.

"I am perfectly willing to discuss the anti-spitting ordinance, which you state should not be enacted, on the basis of the parallel case prohibiting the spitting on the floors of street cars. This ordinance, which was enacted in 1897, has caused no friction, no attempt has ever been made to enforce it, and yet it has changed the condition of our car floors from the filthy condition formerly existing to a fairly respectable appearance. Every argument which you have brought out regarding the difficulty of enforcing the new ordinance applies with equal strength to the street car ordinance, and yet the latter has been productive of much good. What could have been the cause but the moral effect of an existing law on the law-abiding citizen and the remote fear of possible detection and fine on the others.

"That the condition of the cars has been improved is not a matter of surmise. Every officer of the street railroads to whom this question has been addressed has admitted this, and so has every one else whose opinion has been requested. As a matter of fact, any attempt to rescind this ordinance would meet with a storm of indignation.

"That the law cannot be enforced under the extreme conditions which you mention is freely admitted. But how many of our most valued ordinances could stand such a test? Let me also illustrate this with an *argumentum ad hominem:* The genial editor of the *Times-Democrat* and his family have gone to the Boston Club to see the Carnival procession. The servants, taking advantage of this absence, have gone to the corner of St. Charles Avenue to see the procession pass by, and the immediate neighbors and their servants, actuated by similar motives, are also absent, and the nearest policeman is mending the wheel of his bicycle. The burglar takes advantage of this condition of affairs and robs the house of prized valuables. You would hardly countenance the rescinding of the law regarding house-breaking because it is inadequate in such cases.

"Let us show the importance of the new ordinance by making a practical application. New Orleans intends to inaugurate a great street fair in the near future. If our sidewalks are to be in the filthy condition that is usually the case on such occasions it will undoubtedly give a bad impression to the many visitors that we expect regarding the cleanliness and hygiene of New Orleans. The moral effect of a city ordinance would undoubtedly have a similar good effect as it has had in the case of the street cars. If in addition to this a few small notices similar to those in the street cars were posted in conspicuous places and showing some such notice as the following: 'Spitting on Sidewalks Unlawful, C. S. No.—' a most wholesome effect would be obtained, and it would not tax the duties of the police force.

"To limit myself to the parallel case which you have suggested, I submit it to an impartial public as to whether the ordinance prohibiting spitting on the floors of street cars has been productive of more good than evil to the city. The former has been the verdict of every one to whom this question has been addressed. Under the circumstances, the ordinance prohibiting spitting on the floors of public halls, theaters and on sidewalks should be given a fair trial. If it should be found impracticable it can always be rescinded, and we will at least gain the credit of having made an earnest attempt to improve our sanitary condition and to ameliorate the discomfort of the ladies, who are the real victims of such practices. To do otherwise might be construed as an unwillingness on our part to join the ranks of the progressive cities, which I have enumerated, that have enacted similar laws and are deriving the benefit of such sanitary regulations.

"My object in this communication was simply to answer your argument regarding the street car ordinance. In examining, however, your 'Gist of the News,' which is of great convenience to your readers, and which indicates the, with the above noteworthy exception, progressive character of the *Times-Democrat,* I note the following paragraph:

" 'Statistics show that out of 185,532 deaths in New Orleans in twenty-seven years 23,193 have been caused by consumption.'

"It is now considered beyond contradiction that consumption is a disease of infectious origin. The State Board of Health at its last meeting has voiced the opinion of the medical profession when it stated that among the causes of consumption is the inhalation of dried expectoration which has been deposited on the floors of public halls, theaters and on sidewalks. Under the circumstances it is fair to infer that a considerable number of these deaths are due to the neglect of such sanitary precautions.

"If this ordinance has in view, among other considerations, such a praiseworthy object, it should at least be given a fair trial. To reject it because there is a possibility of its being impractible would be assuming a grave and unjustifiable responsibility.

"W. SCHEPPEGRELL, M.D.,
"Chairman, Committee on Hygienic Legislation,
Orleans Parish Medical Society.

"New Orleans, April 13, 1901."

This letter ended the discussion in the *Times-Democrat,* which made no further effort to oppose the ordinance. In its issue of Sunday, April 14, 1901, the *Daily States* attacked the proposed ordinance, and, after holding it up to ridicule, called attention to the fact that I had published an article entitled, "Dust as a Factor in Diseases of the Upper Respiratory Passages," in *American Medicine,* in which I had shown the injurious effects caused by inhaling the dust from shell roads, etc., and while championing the present ordinance, I had made no attempt to prevent the city from making a contract for oyster shells for road purposes. This editorial I answered the following day, explaining that I had also stated in the article referred to that the most injurious form of dust was that contaminated by infected sputum, and that the committee of which I was chairman had been appointed specifically to aid the passage of certain hygienic laws, and could therefore not deviate from this purpose:

"To the Editor of the *Daily States:* I have read, with much interest, your editorial on 'Mankind and Its Microbes' in the Sunday *States* of the 14th issue, and noted the quotation from my article on 'Dust as a Factor in Disease of the Respiratory Organs,' published at the special request of the editor in the *American Medicine* of Philadelphia. In connection with this, I would state that only the first section of the article was published in the issue referred to as shown by the word 'Continued' at its end, and you could therefore not know that the remainder of the communication was in strong support of the anti-spitting ordinance which forms the subject of the present discussion.

"Relying, therefore, on your well-known spirit of fair play, I will request you to publish with this the portion of the article which bears on this subject, and which in substance is as follows:

" 'A source of danger from dust, which is not so conspicuous as the dust in our streets but which is far more pernicious in its effects, is in public carriers as railroads and ferries, and in public halls and in places of amusement in which hygienic laws regarding spitting on the floors is not enforced. The expectorated material mixes with the dirt of the floor, soon dries and becomes a part of the dust of the air, which is inhaled, this being especially the case in winter, when the windows are closed. Bacteriologists have repeatedly shown the presence of pathogenic microorganisms in the sweepings of floors and the possibility of contracting disease from this source is no longer disputed. When the system has been debilitated by sickness, or the normal resistance has been lowered from any source whatsoever, the chances of obtaining disease from this source is enormously increased. In my opinion, many of the deleterious after-effects of grippe, of which we now hear so much, are not due to the effects of this disease directly, but to the lowering of the vitality and normal resistance, thus allowing the entrance of pathogenic germs from such sources as I have here described.'

"In regard to my supporting the anti-spitting ordinance and neglecting other public measures of importance, I would state that while I am personally in favor of the ordinance, and am heartily in earnest in my opinion that it will react to the welfare of New Orleans, my position in this discussion is simply as the representative of the Orleans Parish Medical Society. This organization, which thoroughly represents the medical profession of this city, unanimously passed resolutions urging such hygienic laws and appointed a special committee to further this object. You will therefore understand that, as the chairman of this, I cannot officially deviate from the *raison d'etre* of this committee.

"W. SCHEPPEGRELL, M.D.,
"Chairman, Committee on Hygienic Legislation,
Orleans Parish Medical Society.

"New Orleans, April 15, 1901."

The following day, April 16th, was the date on which the Council should take its final action on the proposed ordinance, and for this date I reserved my strongest argument. I had already shown the advantages of the ordinance from a medical and from a woman's standpoint; now I showed its practicability from a legal standpoint. In a communication entitled, "The Hon. Don A. Pardee on the Anti-spitting Ordinance," I first gave a general résumé of the subject, giving the names of the cities in which it was in force, and showing that the only objection which had been brought against the ordinance had been fully answered. I then submitted the letter from Hon. Don A. Pardee, Judge of the United States Circuit Court, in which he stated that the law was enforced in Atlanta, was well thought of by all good citizens, and had caused little trouble to the police. I believe that this letter carried great weight, and it was referred to by one of the Councilmen in defending the ordinance at the meeting of Council:

"To the Editor of the *Picayune:* The ordinance prohibiting spitting on the floors of public halls and theaters and on sidewalks should come up for final consideration at the meeting of the Council to-night. The only objection that has been argued against its enactment is that it will be difficult to enforce. It has already been shown that this law has been enacted and is regarded as a valuable sanitary regulation in such cities as New York and Brooklyn, Newark, Columbus, Cleveland, San Francisco, Pittsburg, Washington, D. C., Rochester, Louisville and Baltimore,

and even our neighbor, Mobile, is enjoying its benefits. Every report regarding its operation has been in its favor except the solitary case reported by the *New York Sun*. What higher praise can be adduced of its popularity?

"In addition to the cities enumerated, I find also that Atlanta has joined the rank of hygienic progress, as shown in a letter from my esteemed friend, the Hon. Don A Pardee, Judge of the United States Circuit Court, than whose name none carries more weight in this community, and whose judgment is respected by all classes. This communication, which is inclosed with the writer's permission, reads as follows:

"'United States Circuit Court,
"'Fifth Judicial District,
"'Sunday, April 14, 1901.

"'Dear Dr. Scheppegrell: I have noticed your interest in the hygienic ordinance now pending in the City Council in relation to spitting on sidewalks and in other public places, and the opposition of the newspapers on the ground of inability of the police to enforce such an ordinance. I write this to say that such an ordinance has been in force in Atlanta for some time, and has not only been well enforced without much trouble to the police, but is well thought of by all good citizens. In fact, as the ordinance is given publicity, it substantially enforces itself, as all respect the underlying object.

"'DON A. PARDEE.'

"This letter is submitted without further comment. To the unbiased mind it answers practically and conclusively the only objection which has been brought against the ordinance.

"W. SCHEPPEGRELL, M.D.,
"Chairman Committee on Hygienic Legislation,
Orleans Parish Medical Society.
"New Orleans, April 15, 1901."

The remainder of this subject is public history. The Mayor of New Orleans vetoed the ordinance and it was passed over his veto by the necessary vote of 16 to 4. The ordinance, which is now a municipal law, reads as follows:

"*Ordinance Prohibiting Spitting on the Floors of Public Halls, Theaters and Other Places of Amusement, and on Sidewalks and Banquettes.*

"*Section 1.*—Be it ordained by the Common Council of the City of New Orleans, That hereafter it shall be unlawful for any person to spit on the floors of public halls, theaters and other places of amusement, and on sidewalks or banquettes.

"*Section 2.*—Be it further ordained, That any person violating the provisions of this ordinance, shall, upon conviction before the Recorder of the District in which the offense has been committed, be fined in a sum not exceeding Five Dollars or imprisoned in the Parish Prison for a term not exceeding ten days or both in the discretion of the Recorder."

Although it is but a short time since the law has been enacted, its good effects are already apparent. Its reference to sidewalks, to which the principal objections were brought, has already given good results, and I hear from every quarter that the sidewalks are already much improved, although thus far no effort has been made to enforce the ordinance. In order to ascertain this from personal observation, I passed along two of our principal thoroughfares in company with a friend a few days ago, and not only were the sidewalks conspicuous in their improvement in this direction, but a distinct line of expectoration could be seen on the street, just outside of the sidewalks, and where it could not soil the feet of pedestrians generally and the skirts of ladies, thus showing the moral influence of the ordinance and also demonstrating the fact that the citizens of New Orleans are as a class a law-abiding people. It exemplifies the words in the letter of Judge Don A. Pardee in which he states, from his observation of a similar ordinance in Atlanta, that, as the law gains publicity, it practically enforces itself, as all good citizens respect the underlying principle.

As it has been suggested that, in view of the opposition which has been brought against the passage of this ordinance, no attempt would be made to enforce it. This point was investigated and it was found that the police have been instructed to arrest violators of the ordinance, using discretion, however, in the case of strangers and visitors.

In concluding the history of this contest for hygienic advancement, I wish to express my appreciation of the uniformly courteous treatment shown me by the editors of the various papers of New Orleans on whom I called during this discussion, and for offering every facility for presenting to the public views in favor of an ordinance to which they were themselves opposed.

Since the Orleans Medical Society has succeeded in procuring for New Orleans this valuable advancement in hygiene, other medical societies and the medical press should encourage similar efforts, so that in the near future not only all the large cities, but every town and village, will feel the benefits of such hygienic regulations.

ON PRIMARY SARCOMA OF THE LIVER; CRITICAL OBSERVATION AND CONTRIBUTION OF TWO NEW CASES.[1]

BY BINDO DE VECCHI, M.D.,
AND
GIUDO GUERRINI, M.D.,
OF BOLOGNA, ITALY.

THE cases of primary sarcoma of the liver reported by writers are so numerous that one may be led to believe that this form of neoplasm has been erroneously reported as difficult to diagnose and that the law of Virchow on the relationship between primary and secondary growths has met with an exception. Hence we believe that a critical review of the cases might be interesting and,

[1] Pathological Institute of the University of Bologna (Italy).

after closely examining forty-five, we have convinced ourselves that the majority of them should be excluded from the list of primary tumors. It is impossible in this short résumé to give in every case all the reasons which led us to make this exclusion and we refer to the original article for particulars.

Ten cases which are reported probably are not sarcoma, *viz.*, the cases of Naunyn, Lancereaux, West, Roberts, Lee, Pepper, Koltmann, Tooth, Hall, White, Maisenbach and Henschen. The case of Naunyn probably is one of proliferation of Glisson's capsule; that of Lancereaux one of fibroma; West's case is very doubtful, and Roberts' probably a fungous nematode; the cases of Lee, Pepper, Koltmann and White are carcinomata; Tooth's case is a leucemic or a tuberculous lesion, Maisenbach's a myxoma and Henschen's a cystic telangiectatic carcinoma. Seven other cases must probably be excluded also, *viz.*, those of Frehrichs, Wagner, Block, Ledue, Pellacani, Parker and Burnett, since sarcomatous nodules were found in other parts of the body, to-wit, in the skin, intestines, eyes, spinal cord, etc. Eight further cases (Warren, Warshawski, Hutyra, McKee, Axtell, Knoch, Krasnobajew) we have not been able to investigate thoroughly; probably some of these would also have to be excluded. The following table shows at a glance the result of our investigation.

Cases of Undoubted Sarcoma of the Liver.	Cases of Doubtful Diagnosis.	Cases Not Examined.
Hoerup.	West.	Warren.
Podrowzek.	Frehrichs.	Warshawski.
Rehn.	Wagner.	Hutyra.
Pintray.	Naunyn.	McKee.
Lancereaux.	Roberts.	Axtell.
Maffucci.	Lee.	Knoch.
Windroth.	Pepper.	Krasnobajew.
Delepine.	Koltmann.	
Arnold (2 cases).	Block.	
Walch.	Ledue.	
Byrom.	Pellacani.	
Hohlden.	Parker.	
Cesar Demel.	Messenbach.	
Pepere (4 cases).	Tooth.	
Dionisi (2 cases).	Burnett.	
Steinhaus.	White.	
	Henschen.	
	Israël.	
	Kummel.	
	Ruyter.	

Two cases of primary sarcoma of the liver have fallen under our observation, the autopsy notes of which are appended.

Case I.—Man, fifty-eight years old. Slight senile atrophy of the cerebral convolutions and hydrops of the ventricles, pericarditis adhesiva, myocarditis degenerativa, ludocarditis parietalis chromia, atheroma aortæ, emphysema pulmonum, pleuritis adhesiva progressiva, perisplenitis with slight chronic changes in the spleen, nephritis chronica, enteritis follicularis, neoplasma hepatis, cystitis chronica.

The microscopical examination of the tumor showed the presence of a great number of cells. Many of these were elongated and spindle-shaped with a vesicular nucleus; some were large and round and other still larger, with numerous nuclear figures. In the nuclei of the cells it was possible to observe numerous signs of cellular division of the type of either regular or irregular karyokinesis (mitosis pleuripartea, anomalous disposition of the chromatic loops, hyperchromatosis, etc.). This was particularly seen in the giant cells. In several places the protoplasm of the cells showed an evident homogeneous appearance. In other parts the nuclear substance did not readily take up aniline dyes. The vessels of the tumor were few in number, of defective walls and empty, but in a few places there was evidence of hemorrhage. We have made the diagnosis of sarcoma magnicellulatum polymorphum.

Case II.—Man sixty-six years of age. Rachileptomeningitis chronica, edema cerebralis, endocarditis chronica, myocarditis degenerativa, pleuritis adherens progressiva, anemia, edema et emphysema pulmonum, anemia renis, slight gastro-enteritis catarrhalis, perihepatitis chronica, neoplasma et cirrhosis hepatis.

Pieces of the tumor were examined by different methods with the following results: It consists of accumulations of small, fixed cells with, especially toward the center, larger cells with vesicular nucleus, granular protoplasm and droplets of fat. Signs of necrosis and mononuclear giant cells are rather abundant. The smaller cells sometimes appear in singular masses contained in a sort of capsule consisting of fibrillar connective tissue and permeating in numerous layers the entire tumor. In some places it is sharply outlined; in others it furnishes support to the small cells and by a series of sections the connection between cell and stroma is clearly demonstrated. We thus have, in short, regenerative features in the form of cellular division of normal or abnormal type, and degenerative signs as necrosis, cloudy or fatty degeneration of the cells, morphological or chemical destruction of the nuclei. In addition droplets of fat are seen accumulated between the fibrillar tissue often appearing like rosaries. Surrounding the areas of necrosis, giant cells are numerous which is probably a sign of reaction on the part of the organism. The vessels are also very numerous, of defective walls, but filled with blood. In places the tumor in fact appears like a cavernous angiosarcoma. Near the vessels and elsewhere are signs of hemorrhage which often are old, since only represented in the tissue or bodies of the leucocytes by pigment which gives the iron reaction (Stieda's method). Apparently normal islands of liver-tissue are also encountered, demonstrating the strong resistance of the organ to the invading process. The microscopical structure of the liver external to the tumor proper is also very interesting. The pericellular spaces are found enlarged; the cells are spindle-shaped or crushed and their protoplasm is granular and filled with a large quantity of pigment and fat. The connective tissue is increased, forming massive layers which invade

the acini; it consists of fibrillæ interspersed among which are fat-globules and pericellular elements and in places biliary vessels, with their epithelial cell, may be found, as well as heaps of tumo cells. Between the latter and the fibrillæ a close connection can be traced which is an important fact in the pathogenesis of primary sarcoma.

The first author who gave an opinion as to the latter point was Arnold. He considered two possibilities, *viz.*, proliferation from the connective tissue of the vessels or of the acini. Delepine admits a proliferation of the cellular elements of the vessels by the irritating action of the substances elaborated by the metabolic activity of the hepatic cells. Byrom regards the tumors as starting from the perilymphatic connective tissue while Kahlden looks upon the tissues around the vessels as the origin. Cesar Demel thinks the growth begins in the normal connective tissue of the liver. Since in our cases the liver was evidently cirrhotic, we are persuaded of another opinion and consider the neoplastic tendency to be attributable to a preceding cirrhosis. The full reasons we have given in our original communication.

NOTE UPON A CASE OF PRETENDED EXPECTORATION OF MYRIAPODS.[1]

BY ALLEN J. SMITH, M.D.,
OF GALVESTON, TEXAS;
AND
R. R. CURTIS, M.D.,
OF ROGERS, TEXAS.

IN November of 1900, Dr. Curtis sent to the Pathological Laboratory three myriapods which he had obtained from a young woman under his care, who asserted that she had expectorated them together with a number of others after violent fits of coughing. The patient was a young woman of highly-nervous type, and was from time to time, especially after exertion and at her menstrual periods, subject to rather severe attacks, which were regarded by her physician as hysterical. In these attacks she was apparently in a semi-conscious condition and complained especially of severe general headaches; such attacks were not accompanied by any elevation of temperature, nor were there any circulatory or respiratory symptoms. Her menstrual periods were somewhat irregular and attended with considerable abdominal pain, but the flow was about normal in quantity, character and duration.

About two weeks before Dr. Curtis received the myriapods, a member of the patient's family came to him with the statement that the girl had had several severe attacks of coughing in which she had coughed up some worms; and he, taking it for granted that the specimens were ascarides, sent her santonine with the usual instructions for preparation and subsequent purgation. In a few days he was notified that she continued to cough up worms, and as the description of the worms seemed unusual he asked for specimens; and several days later received three myriapods which were sent to the Pathological Laboratory for identification. In all a large number were said to have been expectorated, always after severe coughing; thus in five days she was said to have coughed up forty-five specimens of five different kinds.

Dr. Curtis never saw the girl in any of her paroxysms of coughing, and on close questioning found that, except in the case of the mother of his patient, there were doubts in the minds of those about as to the reality of the expectoration of the specimens. Of course, the whole story of the actual expectoration of these insects by the woman is a figment and one must wonder at the credulity of the mother, who, even after the physician had indicated the falsity of the occurrence, insisted upon its reality and strongly defended her daughter from the imputation of pretence. It was stated by one observer that invariably in such a paroxysm of coughing the girl would rush from the room, returning to discharge from her mouth the specimens. Evidently such escape from the observation of those about her was for the purpose of obtaining a supply of her pretended parasites.

The specimens examined in the laboratory were all of the same genus and species, *Parajulus impressus*, Say, (*Julus impressus*, Say, *Jour. Acad. Nat. Sci. Phila.*, 103, 1821), two females and one male. They are well-known vegetable eaters, living under the bark of rotten trees and beneath logs and stones.

Suspecting fraudulence in the case, the writers shortly after receiving the specimens examined the intestinal contents of one of them and found numerous easily recognizable fragments of vegetable material, portions of wood-cells and spiral ducts being easily distinguishable, at once setting at rest the claim of a parasitic nature for the insects.

The study of the specimens revealed a close conformity with the characters indicated by Bollman (*Myriapods of North America*, Bollman; *Bull. U. S. Nat. Museum*, No. 46, 1893), excepting that the females were slightly above his measurements, and that in both sexes the writers were unable to distinguish the dark spots described as partly concealed by the feet. Length, 32 mm. for male, 35 mm. for each female; width, 1.8 mm. for male, 2.2 mm. for each female. Chestnut brown color, with black median line and lateral row of dark dots; each segment above showing two pale lines; the line between the eyes distinct and dark. Specimens slender, not pilose nor smooth. Vertex shows median sulcus; setigerous foveolæ present. Antennæ slender, six-jointed, second largest, rather pilose. Eyes distinct, triangular in shape, the sides of the triangle curved; ocelli 45 (?), in nine rows. Segments 49-55; first segment distinctly striate, others less distinctly so. First segment large, subquadrate, sides broad. Last

[1] From Pathological Laboratory, University of Texas, 1901, No. 6.

segment produced into a short, thick spine, not projecting beyond the anal valves, sparsely pilose. Anal valves smooth, sparsely pilose, faintly marginate. Anal scale obtusely triangular, sparsely pilose. Repugnatorial pore small, round, partly concealed by transverse suture, which is emarginate, situated on posterior part of segment, commencing in sixth segment. Third segment without feet. Pairs of feet, 80-85, equaling the width of the body, moderately pilose; second pair small, with coxæ united into a long parallel appendage. First pair of feet of male large, six-jointed, with numerous tubercles on inner surface, moderately pilose. Genitals exposed, three pieces; the first long, thickly clavate, twisted, pilose; the second long, curved, tubular, smooth, slender; the third curved and bifid at end. Labrum tridentate; maxillary combs, nine in number.

In the above generic and specific description the writers have followed Bollman, modifying their descriptions as their personal observations of the above specimens demand.

MEDICAL PROGRESS.

Night-Sweats of Phthisis.—An efficient remedy, of simple administration and free from unpleasant or harmful after-effects is still to be desired. KARL DORN (*Deut. med. Woch.*, Oct. 24, 1901) has used with considerable success a soap, preferably of linseed or olive oil, containing ten per cent. of formalin in solution. For children a five-per-cent. preparation is better, because less irritating. The procedure is as follows: The body is smeared with the soap and then a brisk general massage is instituted, lasting for five minutes or more. The resulting lather is then sponged off and the skin thoroughly dried. This treatment is very refreshing to the patient and its constitutional effects can soon be noted in the improvement of appetite and the general condition. Care must be exercised in avoiding all mucous surfaces when applying the soap.

Carbonate of Creosote in Pneumonia.—During the past year several very favorable reports have been given in regard to the use of this drug in lobar pneumonia. L. WEBER (*Med. Rec.*, Nov. 2, 1901) adds to the literature on the subject his hearty approval of its use, believing that it must have a specific action upon the toxin, for its full use causes changes in the condition of the patient resembling closely those which appear at the time of crisis. The drug is given in doses of eight or ten grains five or six times per day and usually when a dram or more has been taken the temperature will rapidly fall to normal and the alarming symptoms will disappear. If the drug is then discontinued the temperature again rises, subsiding, however, if the creosote is once more resumed. The beneficial influence does not seem to be due to the bactericidal or the antipyretic effects of the drug, for, so far as experience has thus far shown, the improvement in symptoms is never accompanied by depression or disturbances in the gastro-intestinal tract. A more general test of the value of this drug is hoped for during the coming pneumonia season.

Cytodiagnosis of Urines in Pathological Kidney Conditions.—The diganosis of pathological kidney conditions by the observation of various varieties of leucocytes present in the urine is of recent origin. By the observation of certain precautions in technic one is able to obtain these cellular elements which emanate from the kidney. M. G. MILIAN (*Comptes Soc. Biol.*, Oct. 18, 1901) has studied many forms of kidney lesion from this point of view. In hematuria of tuberculous renal origin there is present a large number of mononuclears and lymphocytes, but only a few polynuclear elements. Pigmented cylinders are also present. In hematuria from epithelioma of the kidney no leucocytes are present. The hematuria of infectious nephritis accompanied by the elimination of microbes in the urine shows the presence of large numbers of polynuclear leucocytes. Cardiac albuminuria is not accompanied in aseptic cases by such cellular elimination. Febrile albuminurias may be divided in this respect into two classes: (1) those which show leucocyte elimination, (2) those which do not. Among the first are the albuminurias accompanying acute articular rheumatism and diphtheria. In the second class those complicating typhoid fever and pneumonia are found. It is not probable that in all cases of any given renal trouble the cytology of the urine is the same, but it is believed that specific similarities occur which can be utilized for diagnostic purposes within certain limits.

Causes of Bleeding during Pregnancy.—The diagnosis of early pregnancy is frequently very difficult on account of the regular or irregular flow of blood from the genital tract. It is possible for a woman to have apparently regular menstrual periods during her entire pregnancy and at delivery nothing abnormal found in the uterus. Diagnosis must here be made upon other signs of pregnancy. The usual causes of uterine bleeding during pregnancy (care always being taken to exclude the urethra, rectum and vagina) are, according to E. A. LAWRENCE (*Bristol Med. Chirurg. Jour.*, Oct., 1901), the presence of fibroids and pregnancy, a granular condition of the cervix, malignant disease of cervix or vagina, threatened abortion of an intra-uterine pregnancy and extra-uterine pregnancy. A granular condition of the os and cervix can be seen through a speculum and can be cured by freely scarifying the granular surface and applying strong nitric acid. When malignant disease is diagnosed the termination of pregnancy and operation are indicated. The difficult diagnosis really lies in distinguishing intra-uterine from extra-uterine pregnancy, although typical cases are, of course, easily recognizable. The three chief points in the differential diagnosis of these conditions relate to the history, the pain, and the bleeding.

The history is of little importance up to the time of bleeding, but the history of sharp knife-like pains followed by more or less shock is very important. Bleeding from the uterus is more profuse in intra-uterine pregnancy, and a profuse and continuous uterine bleeding would almost always negative extra-uterine pregnancy pure and simple. A woman may abort, however, with very little loss of blood and these cases are sometimes mistaken for extra-uterine pregnancy. Again, in extra-uterine cases, a deciduous membrane may be passed and an intra-uterine pregnancy diagnosed. Pain, as a rule, is more severe in extra-uterine cases and accompanied with more or less shock. A concealed intra-uterine hemorrhage may, however, cause considerable pain. The uterus enlarges, but not so fast in extra-uterine pregnancy as in intra-uterine, and the presence of a boggy mass in the cul-de-sac or either fornix is important in arriving at a diagnosis.

Sinus Phlebitis and Thrombosis.—So far as the ear is concerned, J. E. SHEPPARD (*Brooklyn Med. Jour.*, Nov., 1901) finds disease of the mastoid and middle-ear suppuration more often chronic than acute as the cause of lateral sinus affections. Softened by inflammation, the lining membranes swarm with germs, and these, becoming transmitted to the endothelium of the sinus, cause inflammation, desquamation and thrombosis. The deposit of fibrin may be on one side only or across the whole lumen. The clot breaks down, pus is formed, and is carried into the circulation. Sometimes an abscess forms outside the sinus without affecting the blood. Complications are basic leptomeningitis, extradural abscess and cerebral and cerebellar abscess. Rarely the clot becomes absorbed or organized without further symptoms, occasionally the pus escapes through a fistula in the diseased bone. The symptoms are of four groups, (1) due to mastoiditis and otitis media, (2) cerebral symptoms—headache, mostly limited to the affected side and aggravated by pressure over the mastoid; constipation and vomiting are not infrequent; vertigo, restlessness, hyperesthesia, and paralyses are not common and depend on complications; consciousness is usually retained; choked disc and optic neuritis are sometimes seen, but mostly accompany meningitis and abscess; (3) symptoms perceivable externally—edema of the upper part of the posterior cervical triangle, when present is a sign of value, also a circumscribed painful edema about the posterior edge of the mastoid process; a hard, tender, cord-like feeling of the jugular indicates extension of the clot downward, while edema of face and eyelid without exophthalmus means extension to the facial vein; pressure on the nerves at the jugular foramen may cause hoarseness, aphonia, shortness of breath, slow pulse, spasm of sternomastoid, paralysis of the deglutition muscles, or death from respiratory paralysis; (4) pyemia and septic symptoms. The diagnosis is unmistakable when to any acute or chronic ear disease are added rigors with rapidly fluctuating temperature, sweating, localized headache, vomiting, rapidly developing asthenia, and especially a tender cord-like jugular. Generally not all these symptoms are evident, however, and the diagnosis may be only suspected. The treatment is surgical.

Leucocytes in Typhoid.—From a careful study of the blood in forty cases, W. A. WINTER (*Dublin Jour. of Med. Sci.*, Oct., 1901) concludes that the number of red corpuscles gradually diminishes as the fever progresses, but with convalescence regeneration sets in. The number of leucocytes is diminished in nearly all cases throughout the fever. There is progressive lowering in the percentage of polymorphonuclears, an increase of large mononuclears and lymphocytes, and a decrease in eosinophiles. During convalescence the lymphocytes increase markedly, and the eosinophiles reach or even pass the normal number.

Significance of Hoarseness.—Mistakes in diagnosis usually result not so much from the ignorance of the physician as from the rapidity or incompleteness of the examination. So simple a symptom as hoarseness, although usually due to a temporary catarrhal condition, may be the only obtainable indication of a very serious lesion. P. W. WILLIAMS (*Bristol Med.-Chirurg. Jour.*, Oct., 1901) asserts that hoarseness which commences or persists without adequate and obvious cause should never fail to receive careful consideration, including an inspection of the layrnx. A pronounced anemic condition of the fauces and larynx is highly suspicious of beginning local tuberculosis and should lead to a thorough general examination. A cancerous growth may cause hoarseness and give no other symptoms whatever. Pain is not necessarily an accompaniment of this lesion and in fact does not usually appear till the growth becomes so large that successful removal is difficult. Peripheral paralysis of the recurrent laryngeal nerve fibers either before or after leaving the vagus is one of the commonest causes of hoarseness and is usually due to growths or tumors pressing upon the nerve in its course through the neck or thorax. Enlarged glands, goiter, cancer of esophagus and mediastinal tumors may be mentioned, but the most frequent cause is aneurism of the arch of the aorta and this may be the only recognizable sign of this grave lesion.

Action of Peptone on Stomach Motility.—The action of solutions of peptone on the movements and evacuation of the stomach is interesting in its application to the artificial evacuation of this organ by the pylorus without the production of emesis and the attending discomfort. It was formerly held that the ingestion of peptone produced active motivity of this organ with the prompt evacuation of its contents into the duodenum. JEAN-CH. ROUX (*Comptes Soc. Biol.*, Oct. 11, 1901) by experimental observations has disproven this view. He administered to patients 100 cc. of oil and immediately afterward

gave 2 grams of peptone in solution. In one case after twenty minutes the stomach was evacuated by means of a stomach pump and 60 c.c. of oil obtained. In another case 50 c.c. of oil were obtained after 45 minutes. It seems, therefore, that although the evacuation of the stomach is accelerated by the ingestion of peptone, yet it is far from being completed at the end of 45 minutes. Thus peptone seems to be a motor excitant of the stomach, accelerating the evacuation of its contents by the pylorus. Such evacuation is, however, not made in bulk, but slowly and progressively.

Granular Casts.—These casts are characteristic of epithelial nephritis, and are considered by M. PÉHU (*Bull. de l'acad. de méd.*, Oct. 15, 1901) to have prognostic value. In the acute stage, they are numerous, narrow, coherent, with compact granulations, and indicate an active cellular change. In the subacute, they are fewer, of larger diameter, and are accompanied by more hyaline casts. In the chronic stage, while the albuminuria persists, the casts become few, indicating the formation of a true renal cicatrix. An exacerbation is shown by the reappearance of numerous casts.

Gonorrheal Ophthalmia.—As soon as he sees a case, whether in the first twenty-four hours or later, JACKSON (*Intercolonial Med. Jour.*, July 20, 1901) gives an anesthetic and divides all the tisues at the external canthus right down to the bone. This renders useless the orbicularis muscle, and leaves the lids flaccid and free. The advantages are (1) freedom from blepharospasm and from pressure on the globe and rest to the lids; (2) ability to evert the lids completely and thoroughly to apply remedies and to examine the cornea thoroughly; (3) free bleeding from the congested tissues. After the operation he applies a twenty-grain solution of nitrate of silver, and on the following days a ten-grain solution. By a special nurse the eye is washed out every half to one hour with 1 to 6,000 bichloride of mercury, and a stream of weaker solution is kept running over the lids.

Pathology of Diabetes.—Diabetes, like not a few other obscure conditions, has received such brilliant illumination within the past few years through experimental research that our knowledge with respect to it has grown with great rapidity. SIMON FLEXNER (*Pro. Phila. Path. Soc.*, Oct., 1901) comprehensively considers the subject. The pancreas influences and regulates carbohydrate metabolism, but the cause of diabetes is by no means always resident within this organ. Complete extirpation of the pancreas causes in the dog a diabetes of a severe grade, the elimination of sugar by the urine reaching 10 per cent. or more. The acme of the secretion of sugar is reached from carbohydrate food, but a pure albuminous diet does not reduce the amount below 5 or 6 per cent. The amount of sugar present in the blood is increased. Hyperglycemia goes hand in hand with the glycosuria. No organ except the pancreas can act vicariously in regulating the carbohydrate metabolism of the body. That the pancreas in human beings shows marked pathological changes in cases of diabetes is shown by numerous observation. Of the causes of these changes the chief is supplied by concrements in the ducts. The failure of the functionings of this organ in man as a diabetic cause is independent of its digestive functions and probably depends upon an internal secretion supplied by it to the blood. There exists a close relation between the pancreas and liver with respect to sugar production, and it seems probable that the pancreas regulates through the nervous system the production of sugar by the liver. Although the proof of the hepatic origin of diabetes is inconclusive, it seems sure that in some cases diabetes results from disease of the liver, the pancreas remaining normal. Pathological conditions of the central nervous system and probably of the sympathetic and larger peripheral nerves may give rise to diabetes, but the relationship between such and the organs of carbohydrate metabolism is unknown. The existence of a renal form of diabetes is unproven, although the production of experimental phloridzin diabetes shows that the kidneys are not merely passively engaged in the elimination of the urinary constituents. It seems certain that the symptom-complex of diabetes is dependent upon no one set of functional and anatomical conditions.

Gastric Ulcer.—In the anatomical study of gastric ulcer (Prize thesis, *Bull. de l'acad. de méd.*, Oct. 15, 1901), the author establishes the following conclusions: (1) There exist several different types of lesion (ecchymosis, infarct, hemorrhagic erosions, cicatrices, superficial ulceration of the mucosa, etc.), which may be considered as initial alterations, in some way preparatory for the development of an ulcer; (2) the process which creates the loss of substance, where the ulcer is an acute process; (3) such simple ulcers are not confined to the esophagus, stomach and duodenum, but are found throughout the whole length of the intestine, in the bladder, the vagina, and possibly in the gall-bladder. These extra-stomachal ulcers indicate that the gastric juice and auto-digestion are not necessary for the production of ulcers of this type. That an important causative factor is a toxemia is indicated by the relative frequency of ulcer in alcoholism, lead-poisoning, chlorosis, gout, diabetes, renal and hepatic toxemias, infectious diseases, burns with large space for absorption, etc.

Midwifery.—The lateral position is best for all purposes and is preferred in forceps cases by R. E. MCKECHNIE (*Dominion Med. Monthly*, Oct., 1901) because it is easier to pull in the axis of the brim than when the dorsal position is used. He grasps the forceps with the left hand, the ulnar side toward the vulva, and with the wrist against the buttock as a fulcrum uses the arm as a lever. This gives great force and prevents the patient being pulled about. If the forceps slip, the power of the lever is lost until the fulcrum is readjusted, so the slip cannot be great.

As the blades pass inside the membranes, not touching the uterine walls, the author seldom follows by douching. In the case of twins, there is no need to wait for the second one, for the canal is fuly dilated, and no harm results from rapid extraction. Ergot should be used more frequently, as it helps the pains; if it causes tetanic contraction, it can be absolutely controlled by chloroform. Commonly with the use of chloroform increased hemorrhage may be looked for, as it lessens the contraction of the uterus. Therefore it is good practice to give a dose of ergot before beginning chloroform, so that the ergot may be ready to work as soon as the chloroform is done. Calcium chloride in dose of gram 0.35-0.7 (gr. v-x), three times a day, during the last month, will increase the coagulability of the blood. To avoid the necessity of catheterization, the author has the patient turn over on her stomach, then get up on her hands and knees, taking care not to assume the erect position. Micturition is then usually easy. He has never observed any ill-effect from this procedure, and considers that a retroversion or prolapse is quite unlikely in the first few days on account of the size of the uterus.

General Metabolism in Diabetes.—The fact that progressive emaciation and excessive nitrogen excretion are characteristic symptoms of diabetes has given rise to the view that there is some essential factor in this disease which causes abnormal activity of tissue destruction, and that the excess in nitrogen excretion is evidence of excessively active protein metabolism. It was formerly held that the essential feature of this disease is azoturia and that the nitrogen excretion regularly exceeds the intake. It is now known, however, that the loss in fat and nitrogenous tissues is, in ordinary cases, purely secondary due to the fact that the large amounts of food taken in are in great measure excreted practically unchanged. Thus the constant demands for energy require the excessive breaking down of the body proteids and fats. It is now known that the primary nutritional difficulty in diabetes relates solely to carbohydrate metabolism. This is shown in the storage of glycogen and the quantities of sugar in the blood and urine. Glycogen is reduced in amount and may almost entirely disappear from the liver. Diabetic coma is due to a form of intense acid intoxication not due to any special toxic agent, but to the mere excess of fatty acids which flood the blood. The substance which is undoubtedly chiefly active is oxybutyric acid. The main theories concerning the definite nature of the disturbance of metabolism are as follows: (1) That it is due to the over production of sugar; (2) that it is due to the imperfect oxidation of sugar and its consequent accumulation; (3) that it is due to insufficiency in the production of glycogen, so that sugars absorbed from the digestive tract or formed in the body constantly reach the circulation and the excess instead of being stored is steadily excreted. The first theory at present deserves but little consideration. The last, although based upon inconclusive grounds, has many facts to support it. The general tendency is to put faith in the theory of the imperfect oxidation of sugars supported by the fact that in diabetes the respiratory quotient is low. This subject has received exhaustive consideration by D. L. EDSALL (*Pro. Phila. Path. Soc.*, Oct., 1901).

Functions of Basal Ganglia.—Of three cases of insanity dying in the State sanitarium of Georgia, autopsies showed pathological conditions which seemed of value in determining the functions of certain parts of the brain. In one, the posterior two-thirds of the lenticular nucleus and the posterior half of the caudate nucleus were the sites of marked softening, the remainder of the brain remaining normal. In a case of general dementia the patient was suddenly seized with clonic contractions of the left side and complete loss of consciousness which continued for twenty-five minutes, when he died. The only pathological lesions found were two small hemorrhages in the optic thalamus of the right side, one being about the size of a pea. A case of chronic mania died of a severe enteritis and autopsy showed a large cystic tumor of pineal gland whose normal tissue had entirely disappeared. M. L. PERRY (*Med. Rec.*, Nov. 2, 1901), who reports these cases, concludes that the corpus striatum has no intimate relation with the motor or psychical spheres, and that a large destructive lesion of these nuclei may produce no symptoms; also that there is an area in posterior part of optic thalamus, irritation of which will produce unconsciousness and contraction of muscles of opposite side of body.

Obstetrics.—In eclampsia it is useless to wait as regards emptying the uterus, and, after seven months, GEORGE M. MCCOMBS (*Albany Med. Annals*, Nov., 1901) rapidly dilates under chloroform and extracts with forceps. Thus he saves the child. The mother he treats with blood-letting and saline solution, combating symptoms as they arise. For hemorrhage from placenta previa, he would probably pack until ready to operate quickly, then remove the packing, dilate and extract by version or forceps. Postpartum hemorrhage is always serious, and its correct treatment is by packing. After the birth he uses a small damp bichloride compress over the vulva covered by the regular napkin. This protects the entrance to the vagina, which is the abode of germs. He never uses the douche, as it washes away the natural germicidal secretions of the vagina. He uses chloroform guardedly and always gives ergot as the head is born; he then waits half an hour and finds that the placenta seldom adheres after this time. The curette is more opposed to aseptic surgery than is the douche, for it opens up new avenues of infection. As "dryness is an enemy of bacteria," he treats a septic uterus by wiping it out, and packing with dry sterile gauze, renewing it every eight to twelve hours. When the woman gets about he applies the abdominal bandage with a T-

bandage and pad support to the vulva, and prescribes a tonic of strychnine. He prefers to move the bowels with Rochelle salt or Seidlitz powder, rather than with castor oil. The cord he cuts short and wraps in sterile gauze, then applies a four-inch gauze bandage several times around the abdomen and keeps it on a week.

Malarial Hemoglobinuria.—The symptoms of malarial hemoglobinuria are described by O. LERCH (*New Orleans Med. and Surg. Jour.*, Nov., 1901) as follows: The attack begins with a severe and protracted chill and soon after the characteristic urine, containing albumin, hemoglobin, hyaline and granular casts, and renal epithelium is voided. The cachectic appearance changes to a deep jaundice and excruciating headache and backache, severe pain in the epigastrium and extremities, flushed face with injected conjunctivæ, copious vomiting of greenish liquid which may become black, great mental anxiety, profuse, cold, clammy perspiration, biliary diarrhea, high temperature and small, frequent pulse develop. The estivo-autumnal parasite is always at fault and the patient generally has had repeated attacks of fever, but climate and a certain individual predisposition are also active causes in setting up the hemoglobinuria. Several varieties of this must be considered; thus in some cases the attack will appear with the sporulation of the parasite; in another, the post-malarial, all the parasites have disappeared from the blood; and, finally, there is the quinine hemoglobinuria, where it appears as if this drug were at fault. The mortality varies from 10 to 50 per cent. Confronted with a case of malarial hemoglobinuria the first question to settle is whether the paroxysm represents merely a symptom of active malaria or whether it is of post-malarial origin. With the microscope this is an easy matter. In the former case quinine must be given, best hypodermatically, whether the drug is followed by blood in the urine or not. In the second set of cases rest, fresh air, oxygen, the cleaning of the emunctory channels and sustaining of the system are necessary.

Oöphorectomy and Thyroid Extract for Mammary Carcinoma.—Five years have now elapsed since this novel form of treatment was first proposed by GEO. THOMAS BEATSON of Glasgow. In a very poignant contribution (*Brit. Med. Jour.*, Oct. 19, 1901), he cites some further conclusions of his own, and histories of cases which have been treated by others. That the results are, as Mr. Watson Cheyne puts it, "very striking," cannot be doubted and it is of particular interest to those who dwell so under the shadow of the parasitic theory to note that the facts gathered from the procedure of Beatson seem to bear strongly against the views advocated by Dr. Park. The dose of thyroid extract can vary according to the case from 15 to 250 grains. In closing, the writer very modestly asked whether it seemed too early to advocate the employment of his form of treatment on other than inoperable carcinomata. Again, in view of the great success which had crowned its employment in apparently hopeless cases, was it not debatable whether, in the early varieties, it should be used in conjunction with the ordinary operation, or in place of it.

Complications of Obstetric Practice.—The treatment of various complications occurring during delivery and the puerperium is given by J. W. D. HOOPER (*Internat. Med. Jour.*, Oct., 1901), who insists on strict cleanliness throughout as the chief preventive of septic complications. Uterine douches should never be given unless the hand has been placed in the uterus or the presence of hemorrhage demands it. Curettage is seldom indicated and should not be performed unless, after three days have elapsed, there is an odor to the lochia, pain over the fundus, fever with or without chills and during the third stage of labor there had been signs leading one to believe that some membranes or a piece of the placenta had been left behind. If a postpartum hemorrhage occurs in a woman with relaxed uterine muscles, the treatment consists of massage of the fundus, followed if necessary by a uterine douche of sterile water, bichloride, 1:5000, lysol, ½ per cent., or acetic acid, 4 per cent., at a temperature of 120° F. If these means fail the uterine cavity and vagina must be firmly packed with sterile gauze. After a severe hemorrhage salines or an infusion are of great assistance to the patient in regaining the blood-supply.

Symptomatology of Apoplexy.—Since such a large percentage of all people over fifty years of age die of apoplexy, it is important to appreciate as early as possible any tendency toward that condition and especially any warning signal which may be had of impending danger. T. DILLER (*Med. Rec.*, Nov. 9, 1901) emphasizes the fact that apoplexy may occur without the production of either of the ordinary symptoms, paralysis or loss of consciousness, and the recognition of such an apoplexy is extremely important for it enables most valuable treatment to be instituted. Sometimes there is only a temporary cloudiness of the mind or with this there may be more or less disturbance of vision or even hemianopsia. Apoplexy of the retinal vessels is not an infrequent precursor of apoplexy of a cerebral vessel. Paralysis of a group of muscles or a hemiplegia may be present without any disturbance in consciousness and, on the other hand, complete loss of consciousness or even coma and death may appear without any paralysis. An apoplexy with softening may cause such mental disturbance that cerebral tumor may be diagnosed. In one case the symptoms which appeared, being common to both lesions, were headache, nausea, vomiting, vertigo and stupor. Cerebral softening may also cause a train of symptoms very closely simulating hysteria and several cases have been treated as such by eminent physicians. Furthermore, edema of the brain or abscess may be mistaken for apoplexy, on account of the similarity of

symptoms. It is therefore important that obscure cerebral conditions occurring in persons, especially when past mid-life, should arouse the suspicion of an apoplectic lesion resulting from arterial changes.

The New Surgery of Renal Calculus.—A British joker recently said, in speaking on the effect of the use of X-ray in renal surgery, "The policy of pin-pricks becomes needle-less." A verification of this jest is the goal of a paper by J. HUTCHINSON, Jr., (*Brit. Med. Jour.*, Oct. 19, 1901). It is axiomatic of renal and vesical surgery that the smaller the stone the greater the suffering, and *vice versa*. Hence, the minor value of pain as a factor in deciding for or against an operation, and the import of the rays, which, under proper management, can now be depended on for diagnosis in all cases, even in the absence of characteristic symptoms. It is true that in very fat subjects it is as yet difficult to get a good shadow; but patients suffering from renal calculus do not usually retain their fat. Except in extraordinary cases even this objection fails when the stone is either phosphatic or oxalic, since these calculi cast a shadow much more dense than those of uric acid. A reduction of the exposure to fifteen seconds has done away with the difficulty which arose from the respiratory excursions of the kidney, for during that period the patient can hold his breath. In conclusion it may be stated that (1) the X-rays give a positive diagnosis as to size, position and number of calculi; (2) they make possible nephrolithotomy with least possible injury to the organ and without bringing the organ to the wound's surface; (3) calculi should be removed through the renal pelvis whenever possible; this is contrary to the usual teaching, but such wounds heal better than those of the parenchyma; (4) before and after operating, the use of urotropin and salol is of great value; (5) calculi, however small, should be removed as soon as diagnosed; their danger bears no relation to their size.

Etiology of Apoplexies.—Since "a man is as old as his arteries," Osler says that longevity is thus made a vascular question and that to a majority of men death comes primarily or secondarily by this portal. Poor quality of arterial tubing may be inherited, but the influence of various poisons and the stress of life are undoubtedly most potent factors in determining arterial degeneration. Syphilis and alcohol have long been considered as important agents. W. K. WALKER (*Med. Rec.*, Nov. 9, 1901), points out that high functional activity frequently determines the location of the lesion, citing the instance of a hemianopsia occurring in a priest with unusually arduous labors, who was also an artist spending all possible time with his brush. Again, certain poisons seem to have a selective power, syphilis, for example, so frequently affecting the visual centers and the muscular mechanism of the eye. Recently, the belief that toxemias of gastro-intestinal origin are potent factors in producing vascular degenerative changes has been suggested and does not seem at all improbable in the light of recent discoveries in neuropathology. Appreciation of the far-reaching and destructive influences of the various poisons upon the blood-vessels, as well as upon the nerve-cells, brings practical results. Perhaps in no other class of cases is the influence of heredity more easily traced than in those due to vascular changes. It is not, however, a disease which is here inherited, but "a peculiar type of tissue, which renders the individual peculiarly susceptible to the influence of morbific agents."

Vaccination During Pregnancy and the Puerperium, and in the New-Born.—The results of vaccination in over a hundred cases belonging to these groups are stated by H. PALM (*Fortschritte d. Med.*, Oct. 15, 1901). Vaccination during the last four months of pregnancy was entirely successful, producing no troublesome phenomenon whatever. In view of the tendency of variola to run an especially severe course in pregnant women, the latter should receive prompt vaccination or re-vaccination whenever exposed to smallpox. Palm found that he could successfully vaccinate new-born infants of mothers vaccinated during the latter months of gestation; the fetus apparently is not protected by the vaccination of the mother. Vaccination is declared to be absolutely without danger during the first week or even the first day after birth. Even prematurely-born infants will bear vaccinationtion well and should be vaccinated in the presence of a smallpox epidemic.

Treatment of Acute Lobar Pneumonia.—Venesection gives such immense relief to the right heart and the pulmonic congestion in lobar pneumonia that J. N. HALL (*Phila. Med. Jour.*, Nov. 9, 1901) believes it should be oftener employed. Seriously embarrassed circulation is the indication for venesection. In a large series of cases ice-bags were applied to the chest with benefit. This writer uses turpentine stupes and sinapisms, and later a cotton jacket with camphorated oil. For sleeplessness as well as for painful cough Dover's powder with hot whisky were used with good results; an opiate is preferred to more depressing hypnotics. In complicating pleurisy a hypodermic injection of morphine was followed by a reduction in the frequency of the painful respirations from fifty to thirty per minute. The free use of strychnine is recommended in cardiac distress; it may be given hypodermically if circulatory depression is marked. In cases of hard, bounding pulse with flushed face liq. ammoniæ acetatis or the sweet spirits of niter gave as much satisfaction as either aconite or veratrum. During the height of the fever ½-ounce doses of infusion of digitalis every two hours frequently failed to lower the pulse-rate, but with a fall of temperature the slowing of the pulse was notable. In a few cases antipneumococcic serum was used, but without any noteworthy or particularly encouraging consequences.

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SATURDAY, NOVEMBER 23, 1901.

THE MANUFACTURE OF SERUMS.

IN a previous issue of the MEDICAL NEWS we gave an authentic and full account of the accidental inoculation and death of several patients from tetanus contaminated antitoxin in the city of St. Louis. We then reported that the horse from which the antitoxin had been taken had acquired tetanus in some unknown manner, although subsequent investigations have shown great carelessness in the care of the stables in which the horses were kept. The symptoms, however, became recognizable, only after a certain quantity of the antitoxin had been placed on the market by the local health department, in whose hands the manufacture of the serum was vested.

Closely following this lamentable accident steps were taken in several cities to guard against similar misfortunes, and in the *Echoes and News* columns of last week's issue we published some of the resolutions adopted by several societies.

This calamity opens an interesting and at the same time an extremely complicated series of medical, legal, ethical and social problems, involving questions of protection of the community from disease, of responsibility for accidents of this kind and of the rights of citizens, of physicians and of manufacturers of antitoxins, both civic and lay.

It is impossible for us to more than indicate in this place a few of the relations of these questions. It is of interest, in the first place, to call to mind some of the arguments offered by the representatives of the Tax-Payers' Association of New York City, some two years ago, in their meeting before the Cities Committee bearing on the standing of the State or the City as a manufacturer and seller of antitoxin. It was shown at that time, we believe, that a municipality is not ethically privileged to become a manufacturer and seller in the open market of a commodity which can be prepared by responsible business enterprise at a reasonable and just price.

Without in any sense pandering to the manufacturer of antitoxin or of vaccine, we believe that the evidence warrants the conclusion that any board of health, City or State, is privileged only to manufacture sufficient of these or other like commodities to provide for the sick poor of the community who are a charge upon its charity. To manufacture over and above such quantities and to make sale of the same for private or for civic gain, is, we believe, unjustifiable.

On the other hand, however, it should be borne in mind that the New York City Board of Health was among the first in this country to recognize the value of the newer serumtherapy and that it, with other health departments, made it possible for the community to procure for its suffering citizens remedial agents which no commercial house dared manufacture until the demand was created and the market assured; and, moreover, it is a fact, for New York City at least, that the monies which have been made by the sale of its serum products have enabled it to conduct experiments on a far-seeing plan which have been of inestimable service to science and to humanity. We believe, however, that the means for such experiments should be provided by direct appropriation and that no municipal health department should be reduced to competition with first-class manufacturing houses for the sake of making a little money with which to carry on scientific research. If a city cannot or will not make suitable allowance for such work, we do not wish to see its health department hampered by legal restrictions in the sale of its serum products. We think that the dignified and suitable rôle of the health department is, however, not that of a manufacturer for sale, but that of a controller, regulator and inspector.

An even more vital question is, how can we, as physicians, be guaranteed the highest grade of antitoxin or other serum which may be required in the combat with disease? Which will manufacture the best antitoxin or vaccine, the commercial house or the municipal health department?

Under ideal circumstances equally trustworthy products will be furnished by each, but ideal conditions are rarely found. Commercial greed, on the one hand, will cheapen the product as will political influence in appointments on the other, and of the two we believe that healthy competition of business houses will result in a better controlled product than can be expected from municipal manufacture. Experience in other lines of industry has emphasized this point too strongly to admit of much argument, although, as far as New York City is concerned, its health department has given us the highest class of serums, but the men connected with its laboratories have been exceptionally well qualified for the undertaking. In a shifting political régime, however, it is hardly to be expected that the best will always be appointed, and we have known the time when the New York City Health Department has been an opprobrium rather than an ornament.

A HYGIENIC VICTORY.

Six days did the children of Israel march around the walls of Jericho and blow blasts on their rams' horns; to no avail, but on the seventh day when they blew a blast all together, the walls fell down flat. Whether or not this historical detail hints at a remarkable property of acoustics, it certainly points a civic moral. When the people of any town do anything altogether the walls of prejudice and precedent will fall down flat.

New Orleans has just been going through this experience and has come out triumphant. The experience that Dr. Scheppegrell describes in his paper on "Hygiene and Hygienic Legislation" is an interesting commentary on the necessity for united aggressive persistency in accomplishing any reform.

Our readers would be startled and surprised to listen back a few hundred years and hear the discussions on the laws of decency that agitated our forebears; the plausible reasons they set forth for observing certain proprieties that not even a street gamin would think of violating now; the efforts to put in fashion superfine niceties that are now the commonest necessities of decent habit. Could we review the civic struggle for sewerage, the tussle for pure water, the fight for quarantine of infectious disease it would look as though we had had a hard time growing out of brutedom.

We think that Dr. Scheppegrell's paper would be worth preserving a hundred years, by which time doubtless spitting will have become a private ceremony, and tuberculosis a quarantined disease; and our great-great-grandchildren will read it as a curiosity, and say "To think they could have been so nasty in those days."

THE SIGNIFICANCE OF MINOR SURGERY AND THE RECENT GRADUATE.

Among the many changes of heart and mind which a few years of private practice bring to the medical man, none is perhaps more significant than that which he undergoes in his attitude toward surgery.

Very early in his student career, unless by some unusual chance his mind is turned in the direction of a specialty, he is strongly impressed with the tangibility of matters surgical. He witnesses the skill and intrepidity with which his surgical professors undertake capital operations and soon begins to itch with the desire of emulation. During his period of externe service—if he is fortunate enough to secure a hospital appointment—he consoles himself for the wearying daily round of septic hands, fractured bones, abscesses, etc., to which he is compelled to attend, with visions of the major operations at which he will assist when his out-patient service has come to an end and he has arrived at the dignity of house-officership.

When this happy time has at last come, the goal of his ambition is attained. He spends the ensuing year or more of his interne service in one glorious round of abdominal and other capital operations and is content. And if, perchance, good fortune—in the guise of an emergency—or good nature on the part of his chief permits him to play the leading rôle in the performance of an operation of importance, his happiness is ineffable.

Viewed from this pinnacle of achievement, the old days of his out-patient career dwindle into insignificance. He recalls the multitude of dressings he was compelled to do, the innumerable splints he had to adjust and readjust, and smiles fretfully at the constantly occurring delays in the smooth working of the clinic caused by the stupid reluctance of patients to come forward and have a lancet thrust into an absurd

felon or an insignificant abscess. He wonders how people dare waste the time of a surgeon in hesitating over such trivial matters when so many of—from his point of view—infinitely greater importance are awaiting his attention.

And then he goes out into the world, leaving the shadow and protection of a great hospital, to deal single-handed with humanity. He may not openly avow his attitude, but it is essentially as follows: "Of course, I am willing to repeat my uninteresting experiences of the out-patient department, but it is really only major surgery that appeals to me."

He is, therefore, keenly alert in the small field of work which opens up to him in private practice, for a cantankerous appendix or insinuating neoplasm. He views every pain in the abdomen with the distrust born of surgical experience and palpates every irregularity of contour with nice precision.

Finally, the opportunity to show his manual dexterity presents itself, but, to his extreme disgust, it is not an appendix, not a breast amputation, but a miserable ingrowing toe-nail.

He assures the patient that it is a mere bagatelle, that he will drop in some day, give her "a whiff of ether," slice off the nail and, incidentally, a small portion of the toe. And then—if he is endowed with a fair allowance of common sense—he acquires some information that stands him in the greatest stead during the remainder of his professional career. He learns that in his off-hand proposal to operate on that toe-nail he has unwillingly threatened the peace of mind and started up the antagonism of the patient's entire circle of friends and relatives. And if, by rare good luck, the proposal does not send the patient at once to Dr. X., who "never uses the knife" in such cases, the presumptive operator's troubles are just beginning for him. Grandmother knows the patient has a weak heart and would never stand the ether. Grandfather thinks that a bread-and-raisin poultice would be just as efficacious as any other means of attacking the evil. Mother once had a boil lanced on the back of her neck and it was months before it healed—and she is sure that daughter's flesh is just like hers. Father thinks just as mother does. The ubiquitous "friend of the family" knows a lady who had a similar operation and was just as badly off as ever at the end of a couple of months, etc., etc., *ad infinitum*.

Then the ambitious operator begins to get an inkling of the colossal proportions of the undertaking he has jauntily let himself in for and wonders who invented the absurd term "minor surgery" for operations of this sort. Viewed from the family's standpoint, it comes over him that in comparison with this the average capital operation of the hospital is a matter of trivial significance, and, if he is a wise man, he alters his attitude and views to fit the circumstances.

From this period in his career on the hankering for an appendix to remove or a breast to amputate is not so insistent and overpowering. Of course, if it is really imperative, he is ready to undertake either task, but then, there are so many things to consider—and his experience in private practice with what he used to call "minor surgery" has taught him many things.

BUFFALO AND ITS HEALTH COMMISSIONER.

OUR Buffalo confrères struck the keynote of medical ethics at the meeting of the profession called to express their desire that Dr. Wendé, the Health Commissioner, should be retained under the new administration. As Dr. Pryor said, in addressing the meeting, "It is not so much a question of the office or the man, but the essential thing is the ideal that every true physician is striving for—that ideal is the placing of life and death above the realm of politics."

Dr. Wendé has done magnificent work in the Board of Health. During his term of office the actual death-rate has dropped, despite the increase of population, and, according to the *pro rata* death-rate, Buffalo ranks as the healthiest city of its size in the United States. This is undoubtedly due, according to Dr. Wendé's fellow practitioners, to the non-partisan, scientific, business-like administration of the Health Department, which for the first time in its existence has been taken out of politics.

Newly-elected Mayor Knight, it is confidently reported, does not intend to reappoint Dr. Wendé, whose zealous work has occasionally interfered with politics *per se*, and gossip names as his successor Dr. Green, who has been Dr. Wendé's assistant, and who is a Republican, and a fellow Mason of the new Mayor.

Friendship goes a long way, and Dr. Green would undoubtedly fill the position well; but we feel with the Buffalo physicians that when a scientific man has served his city and humanity as disinterestedly and as ably as Dr. Wendé has done, his genius and the value of his service to the community might well be weighed against party and personal interests.

ECHOES AND NEWS.

NEW YORK.

Dinner to Dr. Thomas.—A dinner was given to Dr. T. Gaillard Thomas at Sherry's, Thursday evening last. It was attended by a large number of New York's representative physicians.

A Tribute to Dr. Thomas M. Markoe.—There was a black-bordered leaflet in the printed bills which commemorated the death, since last season, of one of the oldest of New York's Philharmonic patrons. As told in the leaflet, Dr. Thomas M. Markoe became a subscriber to the concerts of the society upon its organization in 1842 and continued as such during fifty-nine years of its history. His enthusiasm led him to attend the private rehearsals for the early concerts. and he thereafter continued to manifest the same intense interest in its artistic mission. He was a lover of music and an excellent amateur performer, seeking in the enjoyment of this art relaxation from the arduous practice of his chosen profession. The society recorded its tribute to his memory, "recognizing in him a most conspicuous member of that discerning audience, which by its presence and patronage has continuously sustained the society's work and encouraged it with intelligent approbation." The veteran society is not unmindful of its friends.

A Rogue to be Captured.—Pinkerton's National Detective Agency, through its New York office at 57 Broadway, advises us of the operations of a swindler and forger, who is forging the names of physicians in different cities and towns as indorsements to bogus checks passed by him upon banks in which the physician whose name is forged has an account. The swindler's *modus operandi* is as follows: Calling upon physicians he introduces himself as an agent for an association which contracts to supply its members with medical books at from 20 to 30 per cent. less than the regular rate, and solicits a membership fee of $1.00. As an inducement to sign the contract the swindler waives the membership fee, obtaining the signature of the physician solicited, at the same time requesting a bank as reference. In this way the swindler gets his victim's signature and the name of the bank in which he has an account. Several hours later he appears at the bank named with a fraudulent check requesting payment. Upon being refused payment he states that he will have a physician indorse the check (naming the physician who is a depositor and whose signature he had previously obtained in the method described above). The bank officials usually state that such an indorsement will be accepted. The forger then leaves the bank, forges the name of the physician solicited earlier in the day, and on presenting such check again at the bank is usually accommodated with the amount for which it is drawn. He assumes that the average bank would not question a physician's indorsement. This impostor has been quite successful in swindling banks by this method, and has been the cause of much annoyance to physicians whose names have been forged. He, in the past, has used such names as C. J. Merrill, Chas. J. Parsons, John T. Corson, H. A. Mann, D. A. Mason, and more recently in Connecticut he used the name of Henry A. Marling. This swindler is rather a dapper-looking young fellow, 30 years of age, 5 feet 8 inches tall; weighs about 140 pounds; is of slender build; has light complexion, light hair, blue eyes, rather large nose and is usually clean shaven. The Pinkertons seek the coöperation of physicians in the apprehension of this swindler, and suggest that if he calls upon any of our readers they evince no suspicion, but furnish the so-called solicitor with their signature and bank references, but immediately notify the bank where they have their account, advising them of this man's scheme. The local police authorities should at the same time be advised. If the Pinkertons, who are interested for the American Bankers' Association, are communicated with, they will give any information immediate attention.

New York Academy of Medicine.—On Wednesday evening, November 27th, the Section on Laryngology and Rhinology will meet. Dr. Emil Mayer will read a paper on "Affections of the Mouth and Throat in the Adult, Associated with the Fusiform Bacillus and Spirillum of Vincent;" Drs. Jacob Sobel and Charles Herrman will read a paper on "Ulcero-Membranous Lesions of the Tonsils in Children, Associated with the Fusiform Bacillus." Drs. Morris Manges and E. Libman will open the discussion.

On Friday evening, November 29th, the Section on Obstetrics and Gynecology will meet. The following papers will be read: "Etiology of Puerperal Fever," by A. E. Gallant; "Treatment of Puerperal Fever," by R. A. Murray; "Surgical Treatment of Acute Puerperal Sepsis," by H. N. Vineberg. Drs. J. C. Edgar, H. J. Boldt, H. J. Garrigues, S. Marx and others will discuss the papers.

PHILADELPHIA.

Resolutions of the Camden Board of Health.—At a meeting of the Camden Board of Health November 18th, it was decided to allow children to attend school regardless of vaccination and to advise that all vaccination be stopped for the present. This action was taken as a result of the six deaths from tetanus which have lately occurred in vaccination cases. One of the members of the Board stated that during the continuance of the dry weather any scratch or laceration was dangerous. A committee of three was appointed to coöperate with the county authorities in endeavoring to decide positively if the vaccine virus in use has been responsible for any of the cases of tetanus. One of the manufacturing firms has agreed to pay a portion of the expenses of a thorough test of the virus furnished by them and others.

New Ward at St. Timothy's Hospital.—The new Percival Roberts Memorial Ward of St. Timothy's Hospital, Roxborough, was dedicated November 16th. The building was erected by Mrs. Roberts as a memorial to her late husband.

Smallpox.—New cases for the week ending November 16th were 50, the deaths being 12. President Shoemaker of the Department of Charities and Correction has issued an order that while smallpox continues epidemic in the city no visitors will be allowed in the Philadelphia Hospital to see patients. Guards who are maintaining quarantine in the infected districts of the city are erecting booths for shelter during the approaching cold weather. These guards number considerably more than one hundred.

Tetanus Following Vaccination.—The residents of Camden are becoming alarmed over the deaths from tetanus following vaccination and many of them are afraid to submit to the operation. Five deaths have occurred within the last ten days and several other cases have been treated. At least one death has occurred in this city. Physicians have no hesitancy in ascribing the cases to carelessness in caring for the wounds, but it is exceedingly difficult to convince the laity of that fact. It is thought that the unusually dry weather of the past two months has caused the tetanus bacilli to be disseminated through the air to an unusual degree. One fatal case, a boy of seven years, was reported by his physician as having dropped the scab from his arm into the street. The boy replaced the scab and afterward developed tetanus. But one fatal case of smallpox has occurred in Camden.

Quinine Rashes.—Dr. H. C. Wood, Jr., by invitation, read a paper on this subject at a recent meeting of the County Medical Society. He discussed the subject under three heads, diagnosis, predisposing causes, and treatment, and gave a review of the literature on the subject embracing 61 cases. In the diagnosis two points are of especial interest—the involvement of mucous membranes and desquamation. In 14 of the 61 cases reported there was desquamation, and in 11 of the 14 the mucous membranes were involved. These facts bring scarlet fever into the question of diagnosis. The most potent cause is idiosyncrasy, age, sex, size of dose, etc., having little bearing on the production. Treatment is symptomatic. When the idiosyncrasy is known the drug should be given hypodermically. In discussing the paper Dr. Jay F. Schamberg said that the differential diagnosis between scarlet fever and quinine rash should be based on (1) the history of exposure to scarlet fever; (2) the greater intensity of constitutional disturbance in scarlet fever; (3) the desquamation in quinine rash is not so persistent; (4) there is not that peculiar desquamation of the fingers, especially around the nails, in quinine rash; (5) there are not the enlarged tonsils covered by a yellowish exudate, as in scarlet fever; (6) there is not apt to be the strawberry tongue in quinine rashes.

Method of Applying Hodgen's Splint.—Dr. George S. Brown of Birmingham, Ala., demonstrated in Dr. Hearn's clinic at the Jefferson Hospital, November 16th, his very excellent method of applying the Hodgen splint for fracture of the femur. The point of suspension is about eight feet above the floor on a movable gallows. Tent blocks on the four cords suspending the splint allow the easy adjustment of its position. Spring scales are inserted between the supporting cord and the four splint cords. When the splint is applied the gallows is placed directly over the leg. The scales show the weight of the leg. The gallows is then moved back until the scales show the amount of extension required. The advantages of the method are the ease of measuring the amount of extension, the readiness with which the angle of the leg can be varied, and the facilities afforded by the movable base of support in increasing or decreasing the amount of extension.

The Characteristics of Genuine Vaccination.—At the meeting of the County Medical Society, November 13th, Dr. Jay F. Schamberg read for Dr. William Welch and himself a timely article on the above subject. The different stages in the evolution of the vesicle were described and the subject of what constitutes a successful revaccination considered. The statement was made that a revaccination should not be expected to be like the primary one. It is no more reasonable to expect the typical course in a revaccination than it is to expect smallpox after vaccination. The pock should go through the various stages, but not with the severity of a first vaccination. The modified course of the revaccination removes all liability to the disease. One of the most frequent false vaccinia conditions is that in which about the seventh day there is, instead of a vesicle, a hard, reddened area resembling a nevus. This is not protective.

The Efficacy of Glycerinized Lymph.—At the Municipal Hospital glycerinized lymph is used to the exclusion of all other vaccine material and uniformly good results have been obtained. No one in the institution has had smallpox after a timely vaccination with the material mentioned. Its value in primary vaccinations has been tested in the case of nurses and others. Different results by various observers may be explained in one of two ways: (1) The material used by them was not equally reliable, or (2) they differ as to what constitutes a true vaccination. If the first be true, it points strongly to the Government control of all lymph used.

Details of Vaccination.—Attention was called to the fact that Jenner and others used only the serum of the vesicle. Now the lymph, vessel-walls, and epithelium are scraped and used. This may account for the numerous sore arms met with. Patients at the Municipal Hospital are vaccinated at once when an epidemic is present. Vaccination, when the patient has other disease, as diphtheria or scarlet fever, appears

to make no difference. If a child is vaccinated in infancy and again at puberty it should always remain immune. Exceptions may warrant revaccination when there is an epidemic. Tight-fitting shields are condemned. They may be worn a few hours while the material is drying, but if continued they do more harm than good.

CHICAGO.

Exemption from Smallpox.—The continued exemption of the city from smallpox is a source of gratification to the Health Department, and Commissioner of Health Reynolds is disposed to attribute it largely to the work done last winter by the contagious disease division, under the Chief Medical Inspector, Dr. Heman Spalding. During the first twenty-three months of the recent outbreak—March, 1899, to January, 1901, inclusive—a total of 480,629 persons were examined as to their vaccinal status, and of this number 135,358 were found to require vaccination, and were duly vaccinated by the medical inspectors, public vaccinators and other attachés of the Health Department. These figures show that much more than one-fourth of nearly half a million of the population of Chicago were unprotected against smallpox and were liable to contract the disease if exposed to the contagion. In February, 1901, a wholesale vaccination campaign was pushed by every available means, and during the twenty-three working days of the month 303,725 persons were examined, but only 44,904 were found to require vaccination, a proportion of less than 15 per cent. These figures show an improvement of 47.5 per cent. in the vaccinal status of the population, a reduction of 456,280 in the number of susceptibles out of the total 960,588 persons examined during the thirty months of the outbreak.

Check on Hospital Employees.—County Hospital employees and students of medicine who frequent the institution will have strict regulations to face or a set of new rules presented to the County Board by a special committee. Employees are prohibited from having any business relations involving patients or the dead with solicitors, undertakers, or claim agents. Friends of weak, discharged patients are to be notified when the patients are discharged. Alcoholic patients are to be barred. Detailed records of property possessed by the patients are to be kept by a custodian under bonds. History sheets of each case must be carefully kept. It is believed these rules will be passed by the Board.

The Hospital Idea in Maternity Cases.—Dr. Jos. B. De Lee, in a recent paper, stated that during the year 1900, 29,568 births were registered in Chicago. During the same twelve months 258 deaths of mothers were recorded. This shows that one mother in 115 cases dies. Granted that all the births are not reported, the percentage of deaths will again be reached when one adds in all the deaths at this time that are sent in under another diagnosis. Make the greatest allowance for errors common to statistics, and say there is one death in 300, or even one death in 800, is not this mortality too great if it can be avoided? And it may be. The amount of sickness, of permanent invalidism, caused by improper or insufficient care at this time cannot be shown by figures, but the books of every physician and the records of the dispensaries and the hospitals bear testimony to such woes. In this city, during the same year, 1900, 2,144 children failed to see the light of day, and 1,770 more died a short time after birth, a total of 3,914 in 29,568 births, that is, 13 per cent. of all children die in a few hours. This is not accurate, because not all the births are recorded, while the deaths all are, but the figures show an enormous infant death-rate, to check which something ought to be done. Statistics show that one-third of the blind in this State have lost vision through the ignorance and carelessness of their attendants at the time of birth. Enough has been said to show that childbirth at present is not as perfectly normal and safe as it is usually considered, but that there are many dangers. Many of these may be avoided by giving the physician-accoucheur the advantages enjoyed by the surgeon. It is an admitted fact that fewer women die in the maternities than at home. The Chicago Lying-In Hospital Dispensary Service in the Maxwell Street district and its lying-in hospital have had 1,908 consecutive obstetric cases without a death, which shows what may be done by proper precautions. The reasons that fewer women die in the lying-in hospitals than in their homes are patent at first glance. These hospitals are specially equipped to handle maternity cases. The demands of antisepsis are fulfilled as they never can be in a private home, however affluent. The physician has plenty of appurtenances wherewith to work, and he has plenty of help. The nurses of a lying-in hospital, separate day and night nurses, are under the supervision of a superintendent who has had years of experience and together they do much to protect the mother and child from sickness, to detect abnormal conditions, and to report them at once to the physician. The house physicians, too, have the patient under constant surveillance. The incubator, with its warmed, filtered, and moistened atmosphere, is at hand. If a woman has a commodious home, and can afford to fit it up like a hospital, and employ several physicians and day and night nurses, many of the objections to the home will vanish, but for the vast majority of women these conditions cannot be obtained, and therefore it is not fair to the mother, the babe, or the physician, when an obstetrical emergency arises, to condemn them to make-shifts of a private house. Furthermore, the hospital is more economical, and from a domestic standpoint there are distinct advantages. All commotion and confusion are avoided. The patient is relieved of all responsibility, is not worried by the petty annoyances of the home, her callers are limited to a safe number, and the infant is taught habits of regularity regarding feeding and sleep.

Property Purchased by Illinois Medical College.—This college has purchased a piece of property, 50 by 100 feet, at the southwest corner of Washington Boulevard and Halsted street, for $45,000. After making extensive changes in the building, it will be used as a medical college and dispensary.

Chicago Medical Society.—At a meeting held November 13th, Dr. F. C. Hotz reported a case of symblepharon of the lower lid which was relieved by skin-grafting. Dr. E. F. Syndacker described and demonstrated Kronlein's operation for exposure of the posterior orbital space without the removal of the eye. Dr. Frank Allport read a paper entitled "A Search for the Truth Concerning Tenotomies for Muscular Insufficiencies." Dr. C. P. Pinckard reported a fatal case of tetanus following an eye injury.

GENERAL.

St. Louis Medical Society of Missouri.—Dr. E. C. Renaud read a paper on "Sympatheticectomy in Optic Nerve Atrophy" before this Society, Saturday, November 16th.

Herb Doctors in England.—It is reported that some weeks ago the Apothecaries' Society, a licensed medical body, lost a case against an herb doctor, who sold medicines, so-called, which caused the death of a child, but who was protected by the court on the strength of an ancient law passed at the time of Henry VIII., giving herb doctors a special privilege.

Suicide in French Army.—The statistics published in the *France Militaire* show that cases of suicide are very frequent in the French Army, more so, perhaps, than in any other European force. Among every 1,000 deaths in the army from all causes, no less than an average of fifty (in 1896 exactly fifty and in 1897 fifty-one) are caused by self-destruction; while of every 100,000 men on the rolls of the army no less than an average of twenty-seven commit suicide every year. Among the colonial troops the number is even higher.

Cancer Study in Germany.—Kaiser Wilhelm has commissioned Professor Ehrbach, the well-known bacteriologist and physiological chemist, of Frankfort-on-the-Main, to devote himself henceforth exclusively to the study of cancer.

Case of Plague in London.—A case of bubonic plague was admitted last week into Hammersmith's Hospital. The patient is a resident of Chiswick and had been employed on a tug working between Brentford and Greenwich, on the River Lee, for three weeks before he was taken to the hospital.

Plague in Liverpool and Glasgow.—The presence of plague is officially announced in these cities. At least 7 cases have occurred in Liverpool with 2 deaths.

To Investigate Plague.—Assistant Surgeon John F. Anderson of the United States Marine-Hospital Service has been detailed by President Roosevelt to go to Liverpool and investigate the recent outbreak there of the bubonic plague. He will report to Washington on the prevalence of the plague and the possibility of its continuance and spread and the danger of its transmission to this country. He will also make such recommendations as will protect the ports of this country from the disease.

Virchow Fund Increasing.—In order to celebrate in some fitting way the eightieth birthday of Rudolph Virchow (October 13, 1901), it was decided last year by a committee of professors and physicians in Berlin, to ask for further subscriptions to the Rudolph Virchow fund. This fund was started ten years ago to celebrate the seventieth birthday of the great scientist by providing him with the means of facilitating scientific research by establishing scholarships and by encouraging special medical and biological studies. Subscriptions to this addition to the fund were asked for from physicians in all parts of the world and committees were formed in every country, to take charge of the local collections. About 200,000 marks ($48,000) had been collected from all over the world up to July 1, 1901, but only a very small proportion came from this country. Since the first of last January 50,000 marks have been added to the original fund. Of this 3,000 marks, approximately $720, came from the United States. The scholarships when they are founded are to be awarded to students of any nationality who stand first in a competitive examination which will be held once in a given period in Berlin. The number of scholarships and the details in regard to the examinations have not yet been decided upon. Subscriptions from Americans should be sent to Dr. A. Jacobi, 110 West Thirty-fourth street, New York. The American committee in charge of the subscriptions are C. A. L. Reed, President of the American Medical Association; H. P. Bowditch, President of the Congress of American Physicians and Surgeons; W. K. Welch of Johns Hopkins University; R. F. Weir, President of the New York Academy of Medicine, and A. Jacobi, Secretary.

A Local Typhoid Epidemic.—The following interesting account of a local typhoid epidemic in Germany is reported in the Marine-Hospital Service Bulletin. There are probably few parts of Germany which are so frequently smitten with infectious diseases as that known as the Ruhrkohlenrevier (Ruhr Coal District), which extends from Duisburg to Hamm, and takes its name from the River Ruhr which flows through the country in the direction from east to west. Generally the world hears nothing of these little epidemics, as most of them are limited in extent and not very dangerous. But it was quite different with the great typhoid epidemic which suddenly broke out in September in the district of Gelsenkirchen with a violence that has probably never been observed before. The notification cards which the physicians have to fill out arrived at the office of the district police authorities in such large numbers that it was quite evi-

dent that the various cases had a common origin. As early as the beginning of September, single cases of typhoid fever were reported, but no special importance was attached to this fact, as every year a number of such cases have to be recorded. Toward the middle of September the cases increased to such an extent that the authorities became alarmed, and immediately took in hand the combating of the disease with the greatest energy. As in most cases water has been found to be the bearer of the typhoid bacilli, the inhabitants of the district were warned of the danger of drinking water unless it had been previously boiled. The whole neighborhood of Gelsenkirchen is supplied by the waterworks for the northern coal center, and as the spread of the disease corresponded exactly with the district supplied by this water system, it was natural to suspect that in some unexplained manner typhoid bacilli had gotten into the water system and had there increased to an exceedingly dangerous extent. This supposition was strengthened by the observation of the fact that the main water pipe leads from Steele, a place on the River Ruhr about an hour's walk from Gelsenkirchen, where the water supply is taken in, through the commune of Rotthausen, which belongs to the Rhine Province, to Gelsenkirchen. Cases of typhoid fever occurred in all the houses in Rottshausen which derived their water supply from the main pipe, while the occupants of those houses located at a distance from the main pipe and who derivd their water supply from wells remained free from the disease. The announcement of Dr. Koch, who was hurried to the spot in order to place his services at the disposal of the authorities in combating the disease, that he intended to avail himself of the permission of the president of the district to lay open the whole system of pipes by excavations had the effect of forcing the managers of the waterworks to make the disclosure that from the River Ruhr a direct pipe led to a water reservoir, which was mostly used from Wednesdays to Sundays, and that therefore unfiltered water had been pumped into the pipes out of a river in which the drain pipes of the whole district were emptied, and this pipe with its loathsome contents was still in use up to September 25th, a date at which the disease had been raging in a terrible manner for fourteen days. Further investigations have been opened, and it is to be hoped that the avenging arm of justice will reach those who are to blame for the misfortune that has befallen the district.

Obituary.—Dr. Albert L. Gihon, former Medical Director of the United States Navy, died of paralysis last Sunday morning. Dr. Gihon was sixty-nine years old, having been born in Philadelphia in 1833. He attended college in Princeton and obtained his medical degree from the Philadelphia College of Medicine and Surgery. From 1853 to 1854 he was professor of chemistry and toxicology in this institution and in 1855 entered the navy as assistant surgeon, and was assigned to the sloop of war "Portsmouth," taking part in the battle which resulted in the capture of the Barrier forts in November of the following year at Canton, China. He served in various ships until 1860, when he was assigned to the Brooklyn Naval Hospital for a year. During the last three years of the Civil War he was on the "St. Louis," which did special duty as a privateer hunter. At the close of the war he became the senior medical officer at the Portsmouth Yard. He was awarded the decoration of Knight of the Military Order of Christ by the King of Portugal for his services on the Portuguese men-of-war "Principe Dom Carlos" and "Sa da Bandeira" and in the Portuguese colony at Dilly, on the Island of Timor. In 1870 he became surgeon of the fleet on the European Station. Dr. Gihon designed the model hospital ship which was exhibited at the Centennial Exposition of 1876, and the ambulance cot approved and used by the navy was designed by him. He became Medical Director in 1879, and later served at Washington, Mare Island, Brooklyn, and New York. In 1893 he was transferred to the post at Washington in charge of the medical headquarters. He was then senior medical officer of the navy, and was placed on the retired list in 1895, having reached the age limit of sixty-two years. Dr. Gihon wrote a great many technical books on medical matters, some of them having been used as textbooks. He also did editorial work for several medical magazines, among which may be mentioned the *Reference Handbook of the Medical Sciences, Annual of Universal Medical Science* and *Twentieth Century Practice.*

Dr. Isaac R. Small died November 13th, at his home, 175 Halsey Street, Brooklyn, in his seventy-seventh year. He was a graduate of the College of Physicians and Surgeons of New York and practised for nearly forty years in Greenpoint. He served one term as coroner of the Eastern District of Brooklyn.

Dr. Samuel Ashhurst of Philadelphia, died in London, England, November 13th. Dr. Ashhurst was born in Philadelphia, receiving his early education at Amherst College and his professional training at the University of Pennsylvania, from which he graduated forty years ago.

Dr. David C. Reynolds died November 12th at the age of seventy-one. He came to Philadelphia from Lock Haven in 1876. Dr. Reynolds was the founder of the Commonwealth Provident Association in 1888 and was its medical director.

Dr. William F. Norris died in Philadelphia November 18th. Dr. Norris was professor of ophthalmology at the University of Pennsylvania. Death was due to pneumonia. Dr. Norris came from one of the oldest Philadelphia families, being born here in 1839. He graduated in medicine in 1861 and served as assistant surgeon during the Civil War. Dr. Norris held many important positions in local and national medical societies and was the author of numerous papers and treatises on ophthalmological sub-

jects. He also wrote a widely used text-book on ophthalmology.

Dr. Jarvis S. Wight, a well-known Brooklyn physician, died Sunday at his home, 30 Schermerhorn Street, in his sixty-seventh year. He was a descendant of Thomas Wight, an emigrant from the Isle of Wight, who came to this country in 1635. Directly after his graduation from the Long Island College Hospital in 1864, he went to the front as an assistant surgeon in a Volunteer regiment, serving until the close of the Civil War. All through his practice, he retained a close connection with the Long Island College Hospital, holding the position of professor of operative and clinical surgery until the close of his life. He was also consulting surgeon at St. Mary's Hospital and at the Eastern District Hospital. He belonged to all the leading medical societies. He invented numerous surgical instruments and was the author of several works including the following: "The Weight and Size of the Body and Its Organs," "Myodynamics, or the Dynamics of the Muscles," "A Memorial of Frank Hastings Hamilton, M.D.," "A Biographical Memorial of O. W. Wight, M.D.," and "Suggestions to the Medical Witness." His son, Dr. Jarvis S. Wight, Jr., survives him.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, November 9, 1901.

THE REPORTS AS TO THE KING'S HEALTH—BAD EFFECT ON TRADE—HOW THE RUMORS MAY HAVE ARISEN—BIRTHDAY HONORS.

THE rumors as to the King's health to which reference was made in my last letter have caused a good deal of excitement among people of all ranks, and, what is worse, are having a marked influence on the many branches of trade that depend on State ceremonials, and the displays and festivities which are the breath of life of a court. During all the long years of her widowhood Queen Victoria lived in retirement to the serious detriment of those who make it their business to purvey luxuries to the fashionable world. So depressing, indeed, was the effect of her long mourning on trade in London, that at one time it threatened seriously to impair her popularity. Court dressmakers, man milliners, carriage builders, jewellers *et hoc genus omne,* looked forward on the King's accession to a livelier state of things after the official year of mourning was over. But the fact that these cancer rumors, which have till lately only been current here in whispers, have now been bawled aloud in the press, has made both courtiers and their tradesmen very uneasy. Orders for coronation robes are being countermanded or held in suspense by peers and high priests and others who have the privilege of arraying themselves in gorgeous apparel on such occasions; and the result is that a large number of workers of one kind or another who had been engaged by the Court purveyors are being thrown out of employment. I can state with the most positive certainty that there is no shadow of foundation for the rumors. The Court physicians could not go holiday-making in distant parts, as they have been doing quite lately, were there but a cloud no bigger than a man's hand in the farthest corner of the sky; nor would they be going about in society with every outward and visible sign of minds perfectly free from care had they so portentous a secret locked in their breasts. One must have seen the keeper of a sovereign's health when the august patient is really ill to realize the nervous tension caused by such a responsibility. It has not been considered expedient to give any official denial to the rumors; in the first place, because there are many people who never believe a thing until it has been officially denied; and, secondly, because if this particular rumor were denied now, another to the effect that the King had tuberculosis or some other serious ailment would probably have to be denied the next week.

The fact is that King Edward has all his life spoken as if he had a plum in his mouth. Like all his family he speaks with a thick guttural voice and a German accent, which people who wish to be thought fashionable try to imitate, to the grievous discomfort of Englishmen, who like to hear their mother-tongue spoken as it should be. The royal voice has with the advance of age acquired a huskiness akin to that noted by the Lord Chief Justice in Falstaff, who attributed it to "hollooing and singing of anthems." I do not know whether our gracious sovereign is much given to the singing of anthems, but he is of full habit and bears about him the signs of a long perseverance in good living. He smokes a good deal, and suffers occasionally from the pharyngitis that is one of the penalties of over-indulgence in the "herb nicotian." Twelve or thirteen years ago he consulted Morell Mackenzie about his throat which was then troubling him. The royal patient thought it necessary to assure the physician that he did not drink like one of his brothers at whose palace gate Pale Death has since knocked. The Prince, as he then was, asked the physician if there was any sign of cancer. Doubtless the recent death of the Emperor Frederick had made him anxious, as it did thousands of meaner mortals. But Mackenzie was able to reassure him. Possibly the death of his brother, the Duke of Saxe-Coburg, better known perhaps as Duke of Edinburgh, and of his sister, the Empress Frederick, from cancer, may have suggested to His Majesty the possibility of a similar fate for himself. But as far as medical science can pronounce at present there is, as I have said, not the slightest appearance of a growth in the larynx, nor is there anything in the King's condition, local or general, calculated to give rise to the suspicion of cancer.

This by the way is the anniversary of the King's entry on what a more famous monarch called "this great stage of fools," and, in accordance with usage, a list of "Birthday Honors" is published in the newspapers. The medical profession is, as has of late years become the rule, conspicuous by its absence. One poor knighthood falls to its share, and that may be taken more as a recognition of official position than as a reward of scientific eminence. The man whom the King delights to honor is Mr. Anderson Critchett, His Majesty's oculist *en titre*. Mr. Critchett is a man of charming manners and great social accomplishments, but his professional position is largely due to the reflected glory which comes to him as the son of his father. It was thought to be certain that Mr. Malcolm Morris, the Secretary General of the Tuberculosis Congress, would have received an honor of some kind. He worked very hard to make the Congress a success, and it is generally admitted that it was one of the most successful meetings of the kind that have ever been held. The King himself showed a great interest in the Congress, and was very gracious to a deputation of the officers of the meeting who waited upon him to report the issue of the proceedings. It was expected that His Majesty would have shown Mr. Morris some mark of his favor then. Now it is pretty evident that he has been deliberately passed over, and the explanation is probably not far to seek.

The principalities and powers of the profession have been handled with considerable freedom in the *Practitioner,* of which Mr. Morris is editor, and those magnates have a very exalted sense of their dignity. There is nothing they less easily forgive than the crime of *lèse-majesté* committed against their own persons. Moreover, Mr. Morris is recognized as the originator of the movement against tuberuclosis which is steadily gaining strength in this country. This is an offence to certain high and mighty "leaders of the profession" who have the ear of some of those who have the ear of others who have the ear of the King. If it were not that these honors have among our title-worshipping public a distinct commercial value, it would be difficult to conceive that any self-respecting man would care to accept one. They are mainly only to be got by intriguing and plaguing the "lusty beggar." A title may, however, have value of another kind. A well-known Member of Parliament tells me that if you dine out much it is worth while to be a baronet because you have less chance of getting cold soup.

TRANSACTIONS OF FOREIGN SOCIETIES.

British.

ACUTE GASTRIC DILATATION—PRIMARY CHRONIC GLAUCOMA AND IRIDECTOMY—HEMATURIA IN CHILDREN.

H. CAMPBELL-THOMPSON, at the Royal Medical and Chirurgical Society, October 22, 1901, read a paper on acute dilatation of the stomach and outlined the symptoms as follows: The increase in size gives rise to abdominal distention, which is not uniform, but fills chiefly the left and lower parts of the abdomen. Meanwhile as a rule the right hypochondriac region is comparatively or entirely flat. Such a swelling is strongly suggestive of a gastric inflation, but at times irregularities occur in so far that retraction and uniform enlargement have both been noted and reported. One factor is probably the amount of fluid in the stomach, for the swelling usually changes in form and dimensions after vomiting and after gastric siphonage. Peristalsis has not yet been observed with certainty, which seems to oppose the theory that spasmodic pyloric stenosis is the cause of the dilatation. Vomiting, if present, is usually without much straining and commonly brings up large quantities of brownish or greenish fluid. The urine is always partially and often entirely suppressed during the last twenty-four hours of life. In some cases which presented symptoms of retention a catheter proved the bladder to be entirely empty or containing only a few drops. The general symptoms are those of collapse, small thready pulse, rapid feeble respirations, low or subnormal temperature, excessive thirst, probably due to the vomiting of fluids. The postmortem appearances of the stomach are very characteristic; it is shaped like a cylinder, bent upon itself to form a V, with a sharp angle between the limbs which the lesser curvature forms. The walls do not lose their elasticity, although the size of the organ is so much increased, nor are they much thinned out. This is shown by the facts of the vomiting during life and of the rapid return to practically normal size after death if the fluid contents are quickly evacuated. It seems as if there were no definite abnormalities of the walls that can be discovered. The intestines as a rule are flattened, but may show some distention, more especially of the cecum and of the ascending colon. It seems as if the cause of the disease were some profound nervous disturbance which by provoking a hypersecretion rapidly filled up the cavity to enormous proportions. It is very likely that a hyperproduction of gas, as after drinking an excessive quantity of effervescing fluids, may also tend to produce the condition.

D. LITTLE, at the Ophthalmological Society, October 17th, related his experiences with primary chronic glaucoma and its relation to iridectomy. There is a growing unanimity of the profession among ophthalmologists pointing to a primary iridectomy or a sclerotomy backward from the corneoslerotic juncture. He then reviewed forty cases in which he had done this operation with or without a removal of the iris. On the whole he considered an iridectomy the more reliable and satisfactory procedure and at a later date often adds the linear sclerotomy of a persistence or a recurrence of the symptoms seems to demand it. It is always necessary to keep the patients under observation for a long

time after the primary operation has been done, both because the effects of the treatment must be followed and because an acute recurrence of the trouble in the same or in the opposite eye is possible.

C. Williams, at the Harveian Society of London, October 17th, read a paper on hematuria in childhood in which the causes were enumerated as parasites, chemicals, tuberculosis, and traumatism especially by calculi.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Section on Orthopedic Surgery.

Stated Meeting, Held October 18, 1901.

George R. Elliott, M.D., Chairman.

Infantile Paralysis Simulating Congenital Talipes Calcaneus.—Dr. A. B. Judson presented the case of a baby five months old with what at first view appeared to be left congenital talipes calcaneus. Passive motion was abnormally free; active motion was deficient. The position was that of talipes calcaneus. The history was given of a three days' sickness occurring when the child was two months old, in which there were fever, trembling and general cutaneous hyperestheria, but no vomiting, diarrhea or convulsions. The diagnosis of infantile paralysis was made and will probably be confirmed by partial spontaneous recovery during the next year. The cutaneous circulation was apparently normal and the general health of the infant was excellent. The left thigh and leg were ½ less in circumference than the right. The arms were normal. Congenital calcaneus was rare. Such a case with the resistant tissues and lasting deformity of congenital varus would be well worth careful study and description.

Dr. W. R. Townsend agreed with the diagnosis of infantile paralysis. He believed well-marked congenital talipes calcaneus to be very rare, although he had seen such cases.

Dr. Henry Ling Taylor said in reference to the statement about the rarity of congenital talipes calcaneus that, while he agreed that the severe forms were rare, the milder varieties were fairly common; they, however, usually corrected themselves without special treatment.

Crepitus in Cervical Pott's Disease.—Dr. Judson presented a case of crepitus heard in cervical Pott's disease in a woman forty years old, accustomed to house-work. Symptoms had been present about a year. Movements of the head had caused pain in the forehead and face called by the patient "neuralgia." She often supported the head with her hands and at night needed a number of pillows carefully arranged to hold the head in a comfortable position. When she stopped work for a time she felt better, but on returning to work the trouble was increased. The deformity was marked, being partly due to a forward displacement of the axis of the head, a condition invariably present in cervical Pott's. The width of the neck posteriorly was increased. There was no abnormality of the trunk or any other part of the skeleton. She said that at one time the head was much flexed and inclined to the left. Six months ago she noticed that motion of the head in rotation was accompanied by a cracking sound. On examination the crepitus was readily heard, simulating bony crepitus, but evidently due to tendinous or muscular slipping.

Dr. Townsend said that he could not agree with the diagnosis of cervical caries; he was inclined to consider the case one of osteo-arthritis which diseased condition had been well described by Goldthwait in the *Transactions of the American Orthopedic Association*, Vol. XII.

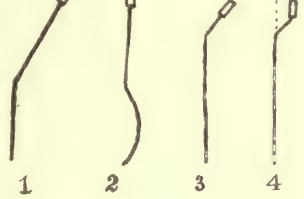
Dr. Elliott agreed with Dr. Townsend that the symptoms and objective signs were not typical of cervical caries. He would expect to find more real disability, more rigidity due to reflex spasm in spite of the fact that frequently the symptoms and signs of caries in the adult were frequently masked. Cervical caries appearing at the age of forty was not common, and at that age almost invariably progressive, which did not appear true in the present case. The crepitus, too, which was elicited so markedly upon free movement of the neck, rather pointed to another disease.

The word *caries sicca* he believed to be largely a pathological misnomer.

Dr. Taylor agreed with the two foregoing speakers. He thought the patient should have shown more severe symptoms and more tendency to progress were it a case of caries.

The indications for treatment, however, of osteo-arthritis and tuberculosis of the spine were the same, as far as protection and support to the diseased vertebræ were concerned.

Dr. Judson expressed himself as unable to amend his diagnosis. He considered the case as a typical one of cervical Pott's disease and recalled the symptoms in detail. He took the opportunity to call attention to an important sign of disease in this region. Figures 1 and 2 showed how the lordosis accompanying deformity in the dorsal region was unconsciously assumed by the patient for the preservation of his equili-



brium. This has been well shown in the photograph exhibited by Dr. H. Gibney at the meeting held October 19, 1900. In cervical disease, Figures 3 and 4, the equilibrium was not seriously disturbed, but the necessity of a horizontal visual axis led to extension of the head at the occipito-atloid articulation with the characteristic forward displacement of the axis of the head

seen in Figure 4 and in the patient who had been presented.

Osteotomies for Correction of Bow-Legs and Knock-Knees.—Dr. Homer Gibney presented six cases and described method employed. Three of the cases shown were very marked anterior curves of tibiæ entirely corrected. Tracings, photographs and notes from the records of the Hospital for Ruptured and Crippled were presented.

Dr. L. A. Weigel of Rochester said that he was somewhat in doubt as to what constituted a true bow-leg and the proper course to pursue in a certain class of cases. An outline tracing of the leg might show an apparent bowing while a skiagraph would demonstrate that the shafts of the leg bones were straight. He exhibited skiagraphs of two cases to illustrate. In one of the cases the deformity was corrected by osteoclasis, but the skiagraph showed that the legs were straightened by making the bones slightly crooked.

Dr. Townsend agreed with Dr. Weigel about straightening legs often by making them "crooked." He had found frequently that in cases where the deformity was ideally corrected the bones were actually very crooked and his experience with radiographs had been similar to that of Dr. Weigel.

Dr. Taylor called attention to the importance of correcting inward rotation of the tibia in cases of bow-legs. There often existed an inward twist of 20 degrees or more and this could only be obviated by everting the lower fragments at time of operation. In the cases presented by Dr. Gibney he noticed that two of the children showed a marked inward twisting of the feet. Too little attention had been given to this point by operators. Neglect to correct this rotation meant an incomplete correction of the deformity and liability of a recurrence of the bow-leg. He advised breaking the fibula as well as the tibia, well loosening the fragments, twisting the foot out as much as possible—the resulting eversion would not be too great.

Dr. R. H. Sayre remarked that in one of the cases presented in photograph by Dr. Weigel, the thighs as well as the legs were bowed, and the bowing was accounted for probably by twisting of the neck of the femur as well as the lower part of the femur near the condyles. In many cases the distortion was found close to the epiphyses, while the shafts of both tibia and fibula were straight. Operation should be performed at the point where deformity existed.

Coxa Vara.—Dr. Taylor presented a boy first seen by him in May, 1900, then six years old. He gave the history of having walked at the age of eleven months and of having been lame in the left leg ever since. There was one-half inch shortening of the left leg, the trochanter was elevated one-half inch, and the head of the femur could not be felt. The symptoms pointed to coxa vara, but he had not known of any other cases of this disease beginning at such an early age. A skiagraph showed that the head of the bone was in the acetabulum and that the neck was bent downward. There was no evidence of rachitis. The leg at present was smaller than the right; abduction and outward rotation were limited, other movements were free; shortening and elevation of the trochanters were the same. There had never been any pain.

Dr. Sayre said he should judge from the skiagraph that there had been a fracture of the neck of the femur; the inability to secure history of traumatism did not necessarily have any weight. The child had not been seen till six years of age and gave the history of walking at eleven months and limping. He judged that this might be a case of fracture or of epiphyseal separation.

Dr. Weigel suggested that, if there had been epiphyseal separation the action of the muscles would have tended to draw the trochanter and shaft upward, the head being retained in the acetabulum.

Dr. Sayre said that would depend on the extent of the fracture —in other words, whether it were complete or not.

Dr. Taylor said that there was a history of several falls, none of them severe nor followed by symptoms of injury. It was evident that coxa vara was present, whether the result of traumatism or malformation.

Dr. Weigel read a paper on "Skiagraphy in Othopedics," illustrating his discourse with many negatives adjusted in the X-ray stereoscope which he used. A brief reference was made to the technic of stereoscopic skiagraphy and the advantages over the ordinary method of producing X-ray negatives were fully explained. The technic was not difficult. He considered one of the principal difficulties in skiagraphy the proper interpretation of the negative in the stereoscope. The idea of depth was given which was not apparent when viewing the negative alone. By reversing the negatives in the apparatus the pictures could be viewed from the opposite surface.

Dr. Weigel also presented the subject of "fractures and dislocations in tuberculous joint disease," with illustrative skiagraphs. One of these was of a boy who was said to have double congenital dislocation of the shoulders, which proved on careful examination to have been tuberculous destruction of the joints, with partial dislocation. On one side an abscess cavity of large size communicated directly with the joint. In another case, involving one elbow-joint and forearm, the necrotic process gradually attenuated the shafts of the radius and ulna. Eventually a complete separation of the latter bone occurred about one inch below the joint and allowed the bones of the forearm to slide upward and backward.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, Held November 11, 1901.

The Vice-President, William McCollom, M.D., in the Chair.

The General Aspects of Corneal Astigmatism.—Dr. H. D. Saril said that by reason of

its predominating influence on the causation of asthenopia, kindred neuralgias, and various sequelæ, astigmatism merits early recognition and optical correction. This defect is largely congenital, heredity playing an important rôle. It is aggravated largely by persistent ocular effort, but may be modified by reverse conditions. The amount of innocuous accommodation possible for the eye to perform is a matter of personal equation. The greater the optical error, as a rule, the less the physical inconvenience, but in direct ratio to this is to be found the diminution of visual activity. Astigmatism exists to a greater or less degree in all human eyes; but the term physiological, as applied to this condition, is an arbitrary one. The annoyance caused by an uncorrected or, reversely, by a forcibly corrected astigmatism depends upon the occupation of the individual, as well as on the power of personal resistance. The greater burden falls on those engaged in scholastic or clerical work, and is almost *nil* for the laborer. It is evident, therefore, that one may be affected with headache, neuralgia, blepharitis ciliaris, singly or collectively, whereas another remains immune. The pupil is an important factor in regulating the configuration of the astigmatic pencil, and upon its size being favorable to the prevention of diffusion circles depends much of the correction of ametropia in general. The feature of greatest interest lies not so much in the quantitative or qualitative change in the refraction of a given meridian, as in the axial transition. In these latter cases a principal meridian to within any degree of a quadrant presents the same or a similar degree of astigmatism as its congener. The resulting condition is that, from being with the rule in certain cases, it becomes against the rule, and in others oblique. All varieties of optical vagaries are possible under these circumstances. When the astigmatism reaches 1.5 D. in childhood there is but rarely any marked deviation during many following years. As a rule, stability of refraction belongs to early middle life. As presbyopia develops, and particularly after it has been well established, the tendency of astigmatism with the rule (direct) to become against the rule (perverse) is very marked.

The subjective symptoms of astigmatism are those of asthenopia in general.

Encysted Empyema.—Dr. J. Blake White said that acute empyema is much more common, especially in children, than generally supposed; is difficult to detect when there is only a moderate exudation and is sometimes overlooked until constitutional conditions or lung perforation results. This latter accident more frequently follows the encysted variety of empyema, a circumstance explained by the more confined character of the cavity and the more yielding nature of the lung tissue constituting one wall of the abscess. Its existence is not so readily recognized by dulness on percussion or absence of respiratory murmur as the books state, and an examination based on these evidences will often fail to discover it. Individuals of strumous diathesis are extremely liable to empyema after a more or less severe attack of pleurisy or pneumonia. It was at one time thought that evacuation of the pus through a bronchus promised recovery, or was the best result that could be looked for. We now know that this natural means of emptying a pus cavity is the worst, as it infects a large area of lung tissue, produces pus pockets in many places, and permits septic absorption. Dr. White gave a detailed report of three cases. The fourth, on account of its similarity to one of the others, was not narrated. Two of them seemed to illustrate how readily an encysted abscess may occasion perforation of the lung. In one case evidences of permanent pulmonary disease, with tubercle bacilli in the sputum, ultimately disappeared when external drainage was established. In this case the drainage-tube was retained for about nine months. Resection of the rib was done in two of the cases, but not in the others. In regard to this procedure he said that, while some believe it should be performed in every case of empyema operated upon, his experience led him to regard it as unnecessary as a routine practice. In the very young quite as satisfactory results are generally obtained without resection, as with it. The main point is perfect drainage, and if this can be secured without resection it should be done. Such a result may be accomplished by using a rubber tube of sufficient caliber and resistance to maintain drainage as long as required and to overcome the pressure upon it caused by granulation tissue. Whether to resect or not must be determined by the special features of each individual case. Irrigations are to be deprecated except in rare instances. Their routine use is injudicious and sometimes dangerous. This objection does not apply to cases of gangrenous abscesses or to those of long continuance which are discharging pus. At the close of the paper Dr. White exhibited a modification of Beck's rib-shears devised by himself, which he said he had found very efficient.

The Early Recognition of Serous and Suppurative Pleurisy.—This paper was read by Dr. James K. Crook, and will appear in a later number of the Medical News.

Resection of the Rib Should Be Performed in All Cases.—Dr. Carl Beck said he was well aware of the great difficulty in making a diagnosis between abscess of the lung and encysted empyema. Thus, sometimes there is a large fibrinous clot surrounded by fluid. Fortunately, we have now a very efficient aid to diagnosis in the Röntgen rays. Dr. Beck then presented a very fine radiograph of the chest, and said he did not believe that abscess of the lung could be more clearly demonstrated than by such a picture. There could be no question as to the advisability of incision, but it was not sufficient; and for more than fifteen years he had insisted on resection of the rib in all cases of empyema. If there were always simple empyema, incision

alone might perhaps answer; but in over forty per cent. of the cases there are fibrinous clots present. By means of resection we can make a satisfactory exploration and a thorough evacuation. Dr. Beck stated that in his latest rib-shears the character and length of the curve was very much the same as in the instrument shown by Dr. White.

Perforation into the Pleura.—Dr. Egbert Le Fevre said that during the last few years he had come to entertain doubt as to the frequency with which empyema perforates the lung. In two cases some time ago in which death occurred rather suddenly he found at the autopsy that the perforation had taken place from the lung into the pleura, and not from the latter into the lung. Since then he had seen numerous similar instances in the morgue. These cases showed that from a bronchiectatic cavity perforation into the pleura may take place; so that he was still in doubt as to the frequency with which a localized pleurisy results in perforation of the lung. As to simple empyema, it was doubtful whether it was possible for perforation to occur from this condition; but if the empyema were localized, with adhesions, perforation might sometimes take place.

Former Mortality of Empyema.—Dr. T. E. Satterthwaite said that when he was house-surgeon at the New York Hospital seven cases of perforated wound of the chest were admitted in which pleurisy occurred. In three the effusion was serous and the patients recovered, but in the other four it was suppurative and the patients all died. At that time no attempt was made by surgeons to operate in empyema, and he was so impressed with the dismal results met with that in connection with Dr. A. McLane Hamilton he devised an apparatus for pumping out the chest. It consisted of a trocar and cannula attached to a Davison syringe, and was a modification of Morrill Wyman's evacuator.

Objections to Resection.—Resection is objectionable (1) because it deforms the chest by injuring the bony walls of the latter, and (2) on account of its liability to give rise to infection. But, in spite of such objections, it is sometimes required, and it is only the radical measures that have made the present mortality in empyema so small.

Measures for Avoiding Resection.—Dr. R. T. Morris said he would like to ask Dr. White whether he had ever used Murphy's method of injecting nitrogen for the purpose of absorbing the point of adhesion. By this means extensive rib resection can be avoided. Phelps' valve also serves a like purpose. It consists of a tracheotomy tube with a rubber dam. It should not be used when there are new adhesions, however, as it may then cause tearing of the lung. As to the extensive fibrinous lymph-masses referred to by Dr. Beck, these can be liquefied in about three hours by means of pepsin introduced through a small incision. But, while extreme rib resection may be avoided by such measures as these, the operation is sometimes absolutely called for.

Dr. White said that he had often observed evidences of apprehension on the part of the patient when touching the affected side. As to irrigation he said that a pretty wide experience and observation had convinced him that it ought not to be practised unless there was some special and positive reason for it. In one case seen in consultation in which he had advised against it, the attending physician saw fit to use irrigation and it resulted in a metastatic abscess of the right shoulder.

BOOK REVIEWS.

PROGRESSIVE MEDICINE. Edited by HOBART AMORY HARE, M.D., assisted by H. R. M. LANDIS, M.D. Vol. III. September, 1901. Disease of the Thorax and Its Viscera, Including the Heart, Lungs and Blood-Vessels—Dermatology and Syphilis—Diseases of the Nervous System—Obstetrics. Lea Brothers & Co., New York and Philadelphia.

THE feature which makes this quarterly digest prominent, when contrasted with the various year-books and others devoted to the business of providing the practitioner with a résumé of modern progress, is the narrative and critical form in which it is written. It must be confessed that the average American year-book or annual is a vague miscellany of scissor-clippings of abstracts, arranged in departments. A certain selective action may be exercised, but such collections of bric-à-brac have proved so uniformly unprofitable because of their non-critical character that this very feature, already alluded to, as found in Progressive Medicine, should be jealously guarded by the editor, or else it, too, will go the way of all works of this class.

The department must be handled by young men, already beginning to be known in their respective specialties, and the moment that the hand of the hack abstractor shows itself, the influence of the work will suffer. Dr. Hare has been both wise and fortunate in the choice of his collaborators.

CIRCUMSTANCE. By S. WEIR MITCHELL, M.D., LL.D. The Century Co., New York.

IN this story of Philadelphia people, the real well-to-do, well-tried old-family men and women live and move in a delightful society of friendly understanding and sympathy, until an adventuress of a very charming but harrowing type works her way into the home of the aged and irascible invalid uncle, fast approaching his dotage, and becomes his secretary. We trembled lest she might have come from New York, so great was the emphasis of the different members of the old gentleman's family that no one knew where she came from; but her author considerately hails her from the Far West, and discloses a very shady past; which, however, he conceals from these "sedate and reputable people,

with their unquestioning beliefs in themselves and their ancestors, of whom they said nothing and thought much."

Verily it is good for the manners and the morals of society at large to dwell in the Quaker atmosphere of dignity and uprightness and sweet friendship that pervades the homes of Dr. Mitchell's characters. They are all intensely human in spite of their misbehavior, and very compassionate with one another's failings in defiance of cast-iron consciences.

There are three types of physicians that live in the pages of this book; the hard-worked, crude, country fellow, who comes friendless to the city and by a chance "circumstance" meets Dr. Archer, the keen, successful, able man who is never too busy to give thought to his friends, and who manages the crochety Uncle John with tact and skill, until another "circumstance" calls in the complacent, indecisive, garrulous Dr. Soper, who fusses on to the end of the story.

There is enough love and villainy to make an entertaining story, but the plot turning on the hinge of "circumstance" is not the only interest. The chief charm for the professional man lies in the characters of the lawyer, the priest, the civil engineer, the financier and the physician, all young men in the prime of life who have made the best of "circumstances."

A HANDBOOK OF PATHOLOGICAL ANATOMY AND HISTOLOGY. With an Introductory Section on Postmortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By FRANCIS DELAFIELD, M.D., LL.D., Professor of the Practice of Medicine, College of Physicians and Surgeons, New York, and T. MITCHELL PRUDDEN, M.D., LL.D., Professor of Pathology and Director of the Department of Pathology, College of Physicians and Surgeons, Columbia University, New York. Sixth Edition. William Wood and Company, New York.

IT IS usual with the conventional reviewer in taking up a new edition to dismiss it with an easy reference to "our former words of commendation," but in the present instance such a method is not at all justified. This edition is in reality a new book, Dr. Delafield having retired as a co-editor, Dr. Prudden has seen fit to recast the entire work, thus bringing it on a level with modern-day pathology. It has therefore lost all of its former patchwork character, excellent as that was, and has been wrought into a strong, modern fabric, with enough of the old to make it one of the most reliable books on the subject with which we are acquainted.

The student of the present volume is to be congratulated that many of the fine-spun nomenclatural differentiations have been modified or entirely wiped out; various lesions are recognized to have normal variation in morphology and types are not unnecessarily multiplied.

A word of commendation is due to the excellent chapter on malaria by Dr. F. C. Wood, and the very fine illustration of the nerve-cell by Dr. F. Bailey. The publishers have dressed the book in a commendable manner, the many half-tone illustrations having been handled with skill.

PHOTOGRAPHIC ATLAS OF THE DISEASES OF THE SKIN. By GEORGE HENRY FOX, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, N. Y., etc. Parts I. and II. Quarto. J. B. Lippincott and Company, Philadelphia and London.

ACNE VULGARIS FACIEI, eczema erythematosum, syphiloderma erythematosum, zoster pectoralis and dermatitis venenata should offer absolutely no difficulty in diagnosis to the practitioner who has the opportunity to consult the first part of this magnificent Atlas. For those of us who cast longing eyes on Fox's larger Atlas, conjuring with the coins in the purse, it is a distinct joy that we now find a reproduction of the splendid plates published at a moderate price.

The second part contains text and plates on acne vulgaris dorsi, phtheiriasis corporis, psoriasis guttata, pityriasis maculata, variola vesiculosa and pustulata. We believe that every physician is able to purchase such a work and, moreover, almost hold it a duty that he should have such a reliable means of diagnosis at hand, especially as the publishers have done their part in bringing out such a work at so moderate a figure.

JAHRESBERICHT UBER DIE FORTSCHRITTE IN DER LEHRE VON DEN PATHOGENEN MIKROORGANISMEN UMFASSEND BACTERIEN, PILZE UND PROTOZOEN. Unter Mitwirkung von Fachgenossen bearbeitet und herausgegeben von Dr. med. P. VON BAUMGARTEN und Dr. med. F. TANGL. Funfzehnter Jahrgang. 1900. Erste Abtheilung. S. Hirzel, Leipzig.

FOR the past fifteen years Baumgarten's Jahresbericht has stood for the best in its sphere and the present collection of literature of the year 1899 is no exception to the rule. There is little to be said concerning this work that is not already appreciated. It is an indispensable part of every bacteriologist's equipment and a helpful résumé for the general scientist, medical or biological.

One feature of the work emphasizes a fact that we have had the pleasure of pointing out before, and that is that through the labors of an American, Dr. G. F. Nuttall, our literature is more than well represented in this foreign work. A comparison of this volume with other year-books of German work in other fields makes us long to have more of such able representatives in the different branches of medical science.

CLINIQUES MÉDICALES ICONOGRAPHIQUES. Par MM. P. HAUSHALTER, G. ETIENNE, L. SPILLMANN, Agrégés à la Faculté de Médicine de Nancy, CH. THIRY, Ancien Interne des Hôpitaux de Nancy. Fascicule et Planches. 1-a 7. G. Carré et C. Naud, Paris.

THIS series of clinical illustrations promises to be a momentous one and from the first fascicle we should judge that the authors are to be con-

gratulated on presenting to the medical profession a wonderful series of photographs.

The great advances which have come about in the art of reproduction have made it possible to illustrate the salient features of many disease types which heretofore have had to depend upon descriptive writings of a not-too-precise character. Modern methods have done away with these long and tedious word pictures and the possibilities of constructing such atlases as this is one of the achievements of modern day science.

To the neurologist more particularly will this first fascicle be most appealing. The illustrations show a large number of atrophic spinal conditions—Aran Duchenne's, Erb's, Leyden's, Moebius', etc.; types of neuromuscular disease are shown in six plates and some fifty-three figures. The limitations of a work of this kind are well recognized, but that this Atlas will prove of immense service in the science of diagnosis admits of but little question. When completed the work is to contain sixty-two plates with over four hundred illustrations. The price, 50 francs, is remarkably reasonable.

The Century Book for Mothers. By Leroy Milton Yale, M.D., and Gustav Pollak. The Century Co., New York.

For a book that goes to the point, that says the plainest facts in the simplest way, and that serves the purpose of a practical guide in the rearing of healthy children, we recommend "The Century Book for Mothers."

The nursery is the center of more superstition, more old-wives' tales, and more glittering generalities than any other social center. And as it is the starting-point of all society, it is most necessary that those that superintend its management, *viz.*, the mothers of the race, should have some training other than the haphazard combination of memories of their own childhood, and the experiences of their friends.

But there is little help for the practical mother in the vague psychic treatises that abound at present, dealing with the questions of prenatal influences and the flower-like unfolding of the mind under the kindergarten system, and there is untold harm lurking in the books of household medicine of the homeopathic variety, which excite a mother's ambitions to treat fevers and indigestion and save doctors' bills.

What a mother is constantly asking herself is, What shall she do with a child that grinds its teeth, that wets its bed, or that has a sore mouth? Or she is worried as to whether her child weighs enough or eats enough, or sleeps enough, hardly considering that these are subjects that concern the physician quite as much as the care of her child when it has measles or whooping-cough.

But because a physician seldom sees a child in health, and because the keeping of it so much depends on the mother, these authors have written a plain and sensible treatise on how to care for children in every detail of their daily life that pertains to their bodily health.

The use of drugs, except in cases of accidental poisoning, they have purposely refrained from discussing; but no item of hygienic value have they allowed to escape. Especially interesting and skilful in its treatment is that portion devoted to the perplexities of the average mother, as voiced for years in the columns of *Babyhood*. In the answers to these questions the authors lay low many fallacies, and promulgate many ideas based on common sense.

The family practitioner in glancing over the book cannot fail to wish that every mother in his clientèle had read and assimilated it. It would make his visits less discouraging, and his treatment more efficacious.

BOOKS RECEIVED.

The Medical News *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* Medical News *will shortly appear.*

A Text-Book of Bacteriology. By Dr. George M. Sternberg. 8vo, 708 pages. Illustrated. Second Revised Edition. William Wood & Company, New York.

The Century Book for Mothers. A Practical Guide in the Rearing of Healthy Children. By Drs. L. M. Yale and G. Pollak. The Century Co., New York.

Human Physiology. By Dr. J. H. Raymond. Second Edition. 8vo, 668 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London.

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SPECIAL ARTICLE.

A TRIBUTE TO DR. T. GAILLARD THOMAS.

ON Thursday, November 21st, about 300 of New York's representative physicians did honor to Dr. T. Gaillard Thomas by celebrating his seventieth birthday at a dinner at Sherry's. Dr. Jas. McLane officiated as toastmaster in a very spirited and engaging manner and Dr. Thomas, Rev. Dr. Greer, Dr. Weir Mitchell of Philadelphia, Hon. Judge Howland, Dr. W. H. Welch of Baltimore and Dr. Geo. B. Shattuck of Boston responded to the toasts, each in inimitable manner, making the occasion a most enjoyable and inspiring one.

Dr. McLane, in presenting his congratulations to Dr. Thomas, and in response to the sentiment "I speak not this in estimation of what I think might be, but what I know," said: "This is no ordinary occasion. The gathering is not to commemorate any great political moment, nor yet to consider any national event. The physician deals with the events of private life and this gathering is a tribute to the resources of friendship. It is a matter of mutual felicitation that so representative a gathering have assembled. All kinds have come together; general practitioners, surgeons, specialists, teachers, from this city, from other cities and from other learned professions. It is an expression of affection and esteem for one long regarded as a friend, and as an honor to the medical profession for so many years."

Dr. McLane said that it would be impossible for him to respond to the letter of his toast for "all that he knew" was so much that time would not suffice for its recital. He was one of Dr. Thomas' oldest pupils and attended his first lectures in the College of Physicians and Surgeons. For over thirty-five years he had been associated with him in the school as student, in the faculty and in private work. He could speak of him as a teacher, as one with a most fluent gift of speech, and a most magnetic lecturer, and as a man whose evident sincerity, thorough manliness and marked personality made him beloved and added great fame to the institution in which he labored. Added to this were his remarkable hopefulness and cheerfulness. It was one of his highest characteristics that he should look on the bright side of all events and in his professional relations with his patients this attitude of the true physician was ever uppermost. Dr. Thomas had learned that precious art of knowing how to live and his high sense of honor and integrity had won for him the highest esteem. "Our hearts warm in the glow of an abiding faith." Dr. Thomas had reached the years of three score and ten and was, in the language of Oliver Wendell Holmes, a representative of that truth that "to be seventy years young was more hopeful and happy than to be forty years old."

"Our friend now wears white roses on his brow in the place of the red. May the vintage of his life grow sweeter and kindlier with every sun that sets and may his life continue to brighten those that come after."

Dr. Thomas, in response to the sentiment "Wisely silent to your own worth, and therefore t'were a sin for others to be so," said that he was made very happy by this large and enthusiastic gathering and by the many friendly glances. Even this, however, was not the full measure of the pleasure; it was, he said, the feeling that deep down in the heart of the profession there was the endorsement of the fellows of his kin. "You, my brother practitioners," he said, "have to-night sealed my career with the sign of approval. This is the highest joy." During one-half a century this approval had been the light of his course and the prize to be attained; without it, his life would have been as the Dead Sea fruit.

"This year," he continued, "is the proudest year of my life. About me I see the faces which were familiar in college halls and in hospital wards which have drawn from me the very best within me. * * * Down through the vista of fifty years I seem to see myself as a young man, entering this great city of Manhattan without a single acquaintance, and as I look forward from that moment the memory of many of New York's proudest ornaments in the medical profession comes into the eye of retrospect."

Dr. Thomas then spoke of Valentine Mott, who was then the sinecure of all eyes, the man at the top of the ladder. He spoke of Drs. J. W. Francis and the elder Delafield and Martyn Paine and then Willard Parker and later his contemporaries, Alonzo Clarke, W. Van Buren, T. M. Markoe, Baker, Austin Flint and J. T. Metcalfe; all had passed away save the last. He recalled those early years when there were gathered about ten young men, G. T. Elliot, Donahue, Otis, Green, Bunsen, Sands, Draper, Loomis, Budd and himself; all had run a glorious course and he alone remained. His half-century in the profession had seen great changes in medicine. In all the 2,300 years, from the days of the teachings of Hippocrates in the island of Cos, to the present, more progress had been made in this last fifty years than in all the 2,250 which had preceded it. He alluded to the great ideas that had come to prevail in modern medicine and which had done so much to revolutionize it as a science and so much to perfect it as an art. Virchow, he said, had just laid down the foundations in cellular pathology, on which the vast structure of modern medicine had been built. Anesthetics had banished pain; the X-ray had given eyes to the blind

and had illuminated the dark places as daylight; the invisible bacterial host had been routed and the death-rate from childbirth had been reduced almost to a minimum and was soon to be stamped out. All future plagues were no longer to be dreaded in the light of modern sanitary science. Gynecology had been revolutionized by Marion Syms, the science of medical thermometry had greatly elevated the art of diagnosis and the genius of a McBurney had robbed appendicitis of its dangers. Napoleon's one hundred days of terror had given place to fifty years of hope and freedom.

"The older I grow in medicine," said Dr. Thomas, "the stronger grows the conviction that

T. Gaillard Thomas, M.D., LL.D.

the medical profession exemplifies that 'great heart of the Saviour of the world.' The physician is the great benefactor of modern times and I hope soon to see the day when his position is more fully appreciated and that soon there may be represented in the Cabinet of the President of the United States a Secretary of Public Health.

"The memory of this night," he said in closing, "will lighten the future, and from the depths of my heart I thank you."

The Rev. Dr. Greer responded to the toast "Let me be privileged by my place and message to be a speaker free," and he was. In a very pleasing and playful manner he referred to his first meeting with Dr. Thomas, some thirteen years before. The doctor was then a leader of a private drill in the riding academy and he admired him because he rode so well and he then believed that he must be a good physician because one that rides a horse well can do nothing ill. This, he said, was the secret of his success. Dr. Thomas was a born rider, but he also had other accomplishments; he was a born orator and he knew of many a vacant diocese which he might fill most acceptably. He thought, however, that he would first ask him to preach to his benighted medical brethren, since they were so much in need of spiritual illumination. "To meet and find a *man,* was it not the greatest of all human charms? for back of all professions and all successes, whatever the field, his was the charm of a *man.*"

Dr. Weir Mitchell, in response to the toast "I'm told you write in public prints; if true, it's natural you should know a thing or two," repudiated, in playful manner, the sentiment, saying that it was not true that he wrote for the public prints and it was therefore not surprising if he knew very little. It was not the glory, he said, of having reached seventy years that was Dr. Thomas' this night; he himself had done that, and did not count it great, but it was the noble use that Dr. Thomas had made of that seventy years that endeared him to the hearts of his brethren.

In other lands, he said, great honors and distinctions were heaped upon men for various reasons; it our own country it was the destroyer of life, the man of the Army or the Navy, the wrecker of property and the former of gigantic industrial combinations, and the lawyer, who were chosen for places of honor and distinction. He did not quarrel, he said, that such were given, but for the medical man honors and distinctions there were none. He thought that this ought to be remedied and he hoped that this wrong would be righted. "We all to-night, however, grant greater honor and distinction to our guest for his faithfulness to all we hold just, wise and honorable in this profession." His was a life such as Sir Philip Sydney described: "A friend, intelligent and noble." Dr. Mitchell then spoke of the work of our profession; much of it was drudgery, unpaid and unremunerated labor; years of work in the hospital wards and rarely ever was it recognized by outward show of honor. The good Samaritan was certainly a doctor. He was the first of a long line which had continued to the present time to exercise the privilege of leading a useful life.

In more jocose vein Dr. Mitchell suggested that a Doctor's Trust would do much to wake the public from their lethargy. Just imagine, he said, the result of a doctors' strike. "I am very sorry, my dear madam, I cannot see you to-day, we are on a strike." He further spoke of the value of the body of specialists as moving features in the disposition of much wealth. Thousands of patients go to a given city for consulting purposes. The value in cash is enormous to the shopkeepers and hotels by reason of this very feature.

Of our guest, in conclusion, he said that he represented all that was dearest and best in our

profession and wished for him many more years of usefulness.

Judge Howland in response to the toast "I am one of those genial souls that will use the devil himself with courtesy," said that he unfortunately had been brought up in that puritanical school that considered all pleasures wicked and indigestible, but with the sight of so many physicians at dinner he felt somewhat reassured. He was more and more impressed, he said, with the charm of physicians individually, but collectively they were truly formidable, recalling to his mind the story of the Irish bride, who riding away on her wedding night, looks up into the beaming face of her husband, saying, "Don't you feel ashamed of yureself, for bein' so hansom?"

He wished, he said, to add his note of congratulation from the legal profession. He felt proud and distinguished to call Dr. Thomas his friend; it was in the eternal fitness of things that Dr. Thomas should have a birthday of his own, after assisting at so many others.

The physicians, he said, were the only profession that had maintained their place in the march of progress of the world. The law has crystallized into a series of eternal truths and was more concerned with forms than with new and vital facts; the clergy already had found, they thought, eternal truth and were chiefly concerned in modifying their sentences of description, making it more poetically attractive, but the physician had no such limitations; the half-truths of yesterday were cast aside for the fuller truths of to-day. Progress was their keynote and their work always remained undone. Dr. Thomas was one whose work, even now, was never done; he had written his name high in the annals of the profession as second to none.

Dr. Wm. H. Welch spoke to the response "And, indeed, I believe no man ever taught better; each sentence hangs perfectly poised to a letter," and gave a short résumé of Dr. Thomas' career which as a teacher has given him a world-wide fame. It was in 1856 that he began studying in New York and was resident physician in Bellevue. He soon formed a quiz class in New York, the second of its kind, which had a marked success and which first brought out Dr. Thomas' unusual capacity as a teacher. In the United States, he said, it was a difficult thing to develop a gift of this kind or to acquire a reputation therefrom; the *privat docent* system of the German universities was much better in this regard, but the quiz system made a substitute. It has its abuses but also its useful purposes; with Dr. Thomas it soon brought him to the front and he became an adjunct lecturer in the university and later physician to Bellevue Hospital, where he was one of the first to bring about real advances in the science of exact diagnosis. Direct observation was the keynote of his method.

He was soon associated with Dr. J. T. Metcalfe as professor of obstetrics in the College of Physicians and Surgeons, and became, later, professor of gynecology in the same college. He rapidly acquired a great reputation and wide fame which is the proud possession, not of the alma mater of the College of Physicians and Surgeons alone, but of the medical profession of America. His style of lecturing was marked by gracefulness and marked felicity of expression, combined with a warm enthusiasm for practical bedside work. His was the spirit of personal inquiry and of personal investigation, sound gospel and still needed. He spoke not only by his lectures, but also by his work on gynecology, which has been published in six editions and 60,000 copies sold. He molded the ideas of a generation in gynecology more than any other teacher of this country. "There are many to call him master. He has numberless friends and admirers, and his colleagues appreciate the lovable character of the man, who has the best and the highest ideals."

Dr. Geo. B. Shattuck of Boston responded to the sentiment "No men can be more amiable than men of sense, who are doctors." He recalled the time when Dr. Holmes was to relinquish the chair of anatomy at Harvard University and referred to the address that Dr. Thomas gave on that occasion, when he said that "Dr. Holmes had taught them it is an important lesson that the man who became distinguished as a physician need not rest there—need not remain a man of one view or of one idea. Dr. Holmes had bridged over that chasm which from time immemorial has existed between the medical profession and the world, had done much to bring the profession of medicine into a pleasant, agreeable combat with society at large." The pupil had learned the lesson from his master, for Dr. Thomas had certainly done much to bring the public into closer harmony with medical thought. He spoke of his association with Dr. Metcalfe, saying that they both came from southern climes, being born near enough to the sun to ripen well, and they were both brought out by the atmosphere of New York.

Dr. Shattuck then spoke of other medical men who had not been men of one idea. The elevated railroad in New York City had been inspired by a medical man. The rapid-fire gun was an invention of a medical man and the saving of the great Northwest to the United States was the outcome of the efforts of a member of the medical profession.

Speaking more particularly on his toast "Why are medical men amiable? Why are they sought for?" he said it was because they were companionable men. They studied mankind at first hand and grappled with the material sides of existence, seeing much that is noble and much that is the reverse. All good and strongly-balanced minds were drawn to the study of practical problems and the medical man believes that laws regulate mankind. Many of these he knows, others he guesses at, and of still others he is ignorant—he rejoices, but is not exultant nor boastful, nor does he shrink—his watchword, 'Though I perish, seed is sown.'"

ORIGINAL ARTICLES.

COURVOISIER'S LAW.

BY RICHARD C. CABOT, M.D.,
OF BOSTON, MASS.

IN 1890 Courvoisier[1] analyzed a large number of cases of diseases of the biliary tract, recording all kinds of statistics regarding them. When tabulating cases with reference to the conditions of enlargement of the gall-bladder, he was greatly surprised to find that when the common bile-duct is obstructed, enlargement of the gall-bladder by no means always follows. In cases of obstruction due to gall-stones, the gall-bladder was rarely enlarged, while if the obstruction were due to any cause other than gall-stones, the gall-bladder was almost invariably enlarged. Thus, out of 187 cases of obstruction of the common duct, there were 87 due to stones. In 70 of these 87 cases (or 80.4 per cent.) the gall-bladder was found atrophied, while in only 17 cases was it dilated. On the other hand, out of 100 cases in which the obstruction was due to causes other than stone, 92 were associated with dilatation of the gall-bladder, while in only 8 cases was the gall-bladder small or normal.

So far Courvoisier was judging wholly from the analysis of literature, but in looking over his own cases he found that the figures were equally striking. Out of 17 cases of obstruction of the common duct by a gall-stone, there were but four with enlargement of the gall-bladder, while out of 18 cases in which the obstruction was due to causes other than stone, 16 were associated with enlargement of the gall-bladder. Perhaps as short a method as any for stating Courvoisier's law is as follows:

When the common duct is obstructed by a stone, dilatation of the gall-bladder is rare. When the common duct is obstructed by other causes, dilatation of the gall-bladder is common.

Two years later Mayo Robson, the well-known English surgeon, independently came to the same conclusion. In his pamphlet on "Gall-Stones and Their Treatment" he stated the law as follows: "Jaundice with distended gall-bladder is presumptive evidence in favor of malignant disease, but jaundice without distended gall-bladder favors the diagnosis of cholelithiasis." Mr. Robson does not seem to be aware that Courvoisier deserves the credit for this law, but of its truth he has no doubt. Among the cases recorded in his recent book on diseases of the gall-bladder and biliary passages, there are 38 in which a definite statement is made regarding the size of the gall-bladder in cases of obstruction of the common duct. Thirty-five or 92 per cent. of these cases go to corroborate Courvoisier's rule. Out of 23 cases of obstruction of the common duct by gall-stones, 21 were associated with small gall-bladder and only 2 with large gall-bladder. Out of 15 cases of obstruction by cancer, together with 2 of obstruction of the cicatrix, only 1, a case of cancer, failed to show a dilatation of the gall-bladder. In 92 per cent. of these cases, therefore, Courvoisier's rule is borne out. Ecklin (quoted by Osler) finds that out of 172 cases of stone in the common duct, only 28 or 16 per cent. were accounted for by dilated gall-bladder, while out of 139 cases of occlusion of the common duct by causes other than stone, 121, or 87 per cent. showed dilatation of the gall-bladder.

Kehr[2] whose experience includes 409 gall-stone operations is very explicit on the subject: "In obstruction of the common duct by a stone the gall-bladder is usually small and not to be felt; in obstruction by tumor (cancer) it is usually to be felt as a large elastic tumor under the right ribs."

This rule, therefore, may be taken as tolerably well established by the statistics already quoted, especially as there are, so far as I am aware, no contradictory statistics. Naunyn in his treatise on cholelithiasis, 1896, treats the rule as a well-established one and makes the absence of dilatation of the gall-bladder one of the main points in the diagnosis of stone in the common duct. But curiously enough Courvoisier's rule seems to have been very slow in penetrating the minds of American physicians and surgeons. This I can readily show by a series of quotations from the more recent American treatises on surgery and internal medicine.

In the American Text-Book of Surgery we find the following statement: "When a gall-stone is arrested in the common duct there is obstruction to the outflow of bile and the gall-bladder becomes enlarged and may be felt as a rounded pear-shaped tumor." In Park's Surgery (article on the surgery of the abdominal cavity by Maurice H. Richardson and Farrar Cobb) this statement occurs: "Impaction of a stone in the common duct usually causes marked dilatation of the gall-bladder." In Dennis' Surgery, edition of 1896, article by Abbé, there is no reference whatever to the facts on which Courvoisier's law rests. The same is true of the article by J. W. Elliot in the International Text-Book of Surgery. Among writers on the practice of medicine, Osler in his last edition, 1898, makes a very clear and pointed reference to the truth noted by Courvoisier. But in the edition of 1895 the same facts are apparently not recognized, or at any rate are not made clear. In Tyson's Practice, 1896, p. 334, the author says: "If the gall-bladder is dilated and can be felt at the edge of the liver there is probably obstruction of the common duct, and if there is pain and tenderness, the obstructive agent is probably a gall-stone." Wood & Fitz's Practice of Medicine and Pepper's American Text-Book, 1894, make no reference to the subject.

In view, therefore, of the fact that most American writers on medical or surgical aspects of diseases of the gall-bladder, either make no ref-

[1] Beiträge zur Pathologie u. Chirurgie der Gallenwegen, Leipzig, 1890.

[2] Kehr. Gall-Stone Disease, p. 91.

erence to the facts emphasized by Courvoisier, or, as in the case of the articles by Tyson and Richardson above quoted, make a statement directly contradicting that which has found general acceptance in England and on the Continent, it has seemed to me worth while to tabulate from the records in the Massachusetts Hospital all the accessible cases bearing upon this point. This I have been enabled to do through the kindness of Dr. J. H. Wright, of the Pathological Laboratory and of the visiting surgeons of the hospital. The result of my study has been to confirm far beyond my expectations the truth of Courvoisier's rule.

My material consists of 30 autopsies and 56 cases which did not come to an autopsy, but in which the condition of the gall-bladder and of the common bile-duct was seen and felt at operation. Among these 86 cases were 57 of obstruction of the common duct by gall-stones, and 29 in which the obstruction was due to other causes, almost invariably cancer of the pancreas. Out of the whole 86 cases there were but 4 which violate Courvoisier's rule. The gall-bladder was atrophied in 47 cases of obstruction by stone, normal in 8 and enlarged in 2. In one of these 2 cases the record states that the gall-bladder was "moderately distended," but gives no figures regarding its size. In the other cases, 6 ounces of bile were evacuated from the distended gall-bladder. These 2 cases form the only exceptions to Courvoisier's rule out of the total of 57 cases of stone in the common duct.

On the other hand, out of 29 cases of obstruction by cancer of the pancreas or other cause not stone, there were but two in which dilatation of the gall-bladder was *not* found. In one of these the gall-bladder was empty; in the other it was contracted around three gall-stones. With the exception of these 4 cases which constitute only 5 per cent. of the total number examined, every record of the Massachusetts Hospital series in which definite statements are to be found concerning the points at issue goes to confirm Courvoisier's rule.

The explanation of the difference in the behavior of the gall-bladder following the obstruction of the common bile-duct by stone on the one hand or by other causes on the other is considered by Courvoisier to be the following:

In the great majority of cases when a stone blocks the common bile-duct, there are or have been stones in the gall-bladder itself. The irritation thus produced has resulted in chronic inflammation with thickening of the wall of the gall-bladder, such that the gall-bladder is no longer distensible. In the great majority of cases it is contracted or atrophied. On the other hand, in many of the cases in which the common duct is blocked by cancer of the pancreas or other cause outside the ducts, the walls of the bladder are thin and easily distensible, so that the backing up of bile behind the obstruction readily distends them. This explanation is supplemented by another offered by Fenger in the *American Journal of Medical Sciences* for February and March, 1896. Fenger finds that the stone is not always firmly wedged into the duct, but may be loose or "floating." Hence he conceives that in many cases the stone in the common duct has a sort of ball-valve action, whereby the obstruction to the bile is not complete for any length of time. Mayo Robson believes that both these explanations are correct and that each accounts for some cases. Of course, if the common duct becomes blocked by cancer when the gall-bladder already contains and has been irritated by stones, we may have the association of non-lithogenous obstruction and a small gall-bladder. This was the case in one of those tabulated above from the records of the Massachusetts General Hospital.

Now what is the use of this law? Quite obviously, I think, it is of value in the diagnosis of cases of chronic jaundice, with or without enlargement of the gall-bladder. Excluding those cases of dilated gall-bladder due to stone in the cystic duct and also those of acute cholecystitis in which we rarely have jaundice, we find a group of cases in which the most important signs are chronic jaundice, more or less intermittent, and the presence or absence of enlargement of the gall-bladder.

Now if it is true that within this group we can distinguish the curable from the incurable, the operable from the inoperable, the lithogenous from the non-lithogenous cases, chiefly or mainly by observing the indications furnished by Courvoisier's rule, the importance of that rule is not open to dispute. The statistics that I have quoted seem to me to warrant the conviction that this rule can be relied upon to an extent rarely possible in a matter so uncertain as physical diagnosis.[1]

REPORT OF A CASE OF DIAPHRAGMATIC HERNIA[1]

BY H. D. HOWE, M.D.,
OF HAMPTON, VA.

ON October 10, 1900, I was summoned hurriedly to see A. W., who, while "scorching" on his wheel with head bowed low, ran full speed into a cart coming in the opposite direction. The involuntary effort to check himself caused him to receive the full force of the blow against the end of the shaft just below the left breast, instead of on his head. He was hurriedly conveyed to the Hospital, where I saw him.

At this time all the symptoms of shock were manifest and it required the usual remedies quite vigorously applied to cause reaction. There was a contusion, with considerable swelling, about three inches in diameter, the center of which was over the sixth interspace in the left anterior axillary line. Respiration was shallow on this side, but the respiratory murmur was clear and distinct, and the heart's action, while feeble at first from shock, soon became regular and fairly strong. There was no vomiting nor cough and the pain was of a stabbing nature,

[1] From advance sheets St. Paul Medical Journal.

made more deep by inspiration. Although no fracture of a rib could be detected, I strapped the left chest from lower margin of the ribs well above the site of injury. This gave considerable relief. Aside from a small superficial slough at the point of injury, which healed very quickly after removing the straps on the second day, there was nothing interesting in his rapid convalescence. There was never any vomiting or intestinal trouble. The only respiratory change was the lack of full expansion over the base of left chest. At the end of six days the patient was discharged and resumed his duties and studies in a military school.

From this time until the patient's admission on May 17, 1901—a period of over seven months—he never once reported for sick call and was able to engage in various athletic sports, although his companions state he was never as active as before his injury. The recent trouble began after violent exertion in a jumping match, from which, after a few trials, he had to withdraw on account of pain in his chest. On admission to the Hospital the following morning he complained of nausea and a dull pain up and down the lower half of the sternum. Physical examination revealed a decrease in the respiratory movement of the lower half of the left chest, with distant breath sound. The heart was displaced to the right and upward. Its sounds were normal. The abdomen was somewhat scaphoid, but nothing abnormal was detected by palpation. The bowels were obstinately constipated. He was given small amounts of peptonized milk and divided doses of calomel and soda ordered. This was all vomited and rectal feeding was begun the following day. High enemas of various kinds had no effect on the constipation, which was constant until death. There was at no time any abdominal tenderness. Vomiting, which had been persistent, was relieved by gastric lavage. This gave so much relief that the patient requested its continuance and the tube was passed each day until his death. The stomach would hold only a small amount before retching would occur, yet there is no doubt of the tube having entered the stomach because of the large amount of inky-black contents washed out. Owing to the extreme weakness and irritability of the patient and the inability to change his position, the stomach tube was of little diagnostic aid as to the position of the viscus.

For a period of ten days from admission the patient was nourished almost entirely by enema. Emaciation had become extreme. The question of exploratory laparotomy for the location and possible removal of the obstruction which it was thought existed at the pylorus was considered and decided negatively, as the patient's condition was extremely critical the last five days of his illness and it was feared even an exploratory operation would be immediately fatal. On the tenth day, during a sudden syncope, which followed his usual gastric lavage, I was able to detect a most beautiful succussion splash and tinkle over the left chest as high as the fourth interspace. The coin test was absent. Above the fourth interspace the breath sounds were clear and regular though rapid. The patient died in a few hours. During the entire period of his sojourn in the Hospital he was able to rest only in a sitting posture and would frequently jump out of bed, if the attendant's back was turned, claiming that he obtained greater ease by standing. The facial expression was that of a most hopeless and pitiful sufferer.

The postmortem was made six hours after death. Rigor mortis was extreme, emaciation considerable. The stomach, transverse colon, upper part of descending colon and fully one-half of the great omentum were found in the left chest cavity. The rupture in the diaphragm was one and a half by one and a half inches, and was near the center of the muscular portion, one inch to the left of the esophageal opening. The edges of the hernial opening were indurated and rolled upward in the thoracic cavity. The heart was displaced to the right and upward. The lung was crowded up above the fourth interspace, but was normal otherwise. The stomach was somewhat dilated and contained about eighteen ounces of inky fluid. The hernia was not strangulated and there was no inflammatory condition of the stomach or intestines. At a point near the junction with the colon, the omentum was strongly adherent to the pleura in the sixth interspace—the site of the contusion of the chest. There was an almost entire absence of the intercostal muscles at the point of the old injury, but no fracture of the rib was perceptible.

SOME OBSERVATIONS, GENERAL AND TECHNICAL, MADE AT THE CRAIG COLONY[1]

BY SMITH ELY JELLIFFE, M.D., PH.D.,
OF NEW YORK;
CLINICAL ASSISTANT, DEPARTMENT OF NEUROLOGY, VANDERBILT CLINIC, COLUMBIA UNIVERSITY; VISITING NEUROLOGIST, CITY HOSPITAL.

IN a visit of three months made to Craig Colony in 1899, for the purpose of studying the methods of treatment that have been so successful there, I was particularly impressed with the fact that the recognized presence of epilepsy did more to hide it than anything else. The most startling thing that the visitor to Craig Colony notices is not the prevalence of epileptic fits, but the absence of them.

In driving through the broad, rolling valley, with its winding ravine, one comes upon groups of men hoeing, making hay, digging and draining ditches, gathering and carting vegetables. In the orchards women are picking up apples and in the gardens weeding the beds. There is a tranquil, thrifty air to the scene, the rich loam of the soil, and the luxuriant aspect of the potato and tomato and cabbage fields, with the number

[1] From advance sheets of The Medical Report of Craig Colony.

of coloners at each task, which lead one to believe that he is on the lands of some well-to-do farmer. The impression is still deepened as one nears the great barns and poultry houses and sees more men leisurely working.

A little further and one is in a municipal center with the hospital, school-house, church and administration buildings, at the entrance to a village green with rows of cottages on either side. Glimpses of games, tennis, baseball, swings, a few bicycles, and groups of children under the trees, make the scene look like some Utopian village where everybody keeps his lawn in order and has good times. But with the exception of a few men in black-visored caps and a few women with white aprons, every man, woman and child in sight is an epileptic and might at any time need the care of one of the male or female nurses who assist and direct the workers.

In any problem, a common factor may be struck out and leave the relations of the component parts the same as before, and the factor of epilepsy, by virtue of its commonness, seems to be eliminated from the Colony life; or, rather, where in a normal village an attack would create a sense of horror and excitement, here it is passed over and barely noticed. The attendants are so quick to lay a patient down on the pillow that is always present even in the fields, and cover him up, that his fellow workers are scarcely aware of his seizure.

This method of eliminating all excitement and notice from the epileptic, seems to remove the dread and terror of the attacks, and has a perceptible effect in diminishing their frequency, as may be seen in many cases where improvement begins from the day of entrance, apparently from no other reason than that there was nothing to fear of danger, obloquy, or excitement in connection with a seizure.

The general method of treatment at the Colony as seen by an observer in its broadest lines seems to lie in whatever will take the mind of the patient from himself and his abnormal state and develop in him the normal qualities of manhood that have almost invariably been neglected in his life. In other words, it is a process of training to change the man from an idle, introspective invalid to a busy, useful, altruistic member of the community.

The most potent factors in this life are good food, open air, labor and sociability. But it is in the wise personal application of these factors that one sees the genius stroke that works the cure. A convict may have these same elements in serving out his term, but the epileptic at Craig Colony has them scientifically combined. He is made the subject of personal study, his heredity, his antecedents, his education, his social standing, are all taken into consideration, and he is given work that is congenial to him.

Many who come there do not know how to work. From childhood they have never been allowed to use a tool for fear of cutting themselves; to wash a dish for fear of breaking it; or to go to school for fear of creating a disturbance; therefore they live a life of idle stupidity, waiting for the next fit. Such persons at the Colony have Kindergarten and Sloyd training, and with the interest that comes with increasing deftness and occupation, they almost invariably improve and reach the point where they can engage in some of the Colony's real work.

The moral and mental effect of progressive work on the health of the epileptic has been shown in some who have never learned a trade because no one would employ them. They have here been given an opportunity to learn brick-making, printing, gardening, fine laundry work, sewing, shoemaking; in fact, almost any trade of normal village life; and such has been the effect of the combination of an interested mind and busy hands that several have gone away from the Colony, not only cured, but equipped to earn their living.

I learned with interest that, although the amount of work that each patient could do varied with the individual, the average was about one-third that of a normal man's labor.

The tact and patience of the nurse-assistants and teachers are at the basis of most of the improvement, because the epileptic has almost invariably been brought up in idleness, and labor presents itself to him in any light but that of a means of cure. It must be made interesting, it must be varied, it must be done with frequent intermissions for rest, it must be suggested as a favor, rather than a duty, and yet for the sake of the community's support, it must be done well.

It is sometimes weeks, even months, before a man finds his niche. He tries his unskilled hands at gardening, poultry raising, milking, shoepolishing, and perhaps finds his congenial occupation in waiting on table, or tending store. And when a man does find a congenial occupation, he generally improves in health and has less frequent attacks as his interest increases, and thereby repays by the value of his labor the effort made for him.

The cultivation of the social side of the epileptic appears to be as difficult as it is beneficial. Partly as a result of social ostracism and partly as a symptom of his disease, the epileptic is nervous, excitable and irritable. He is generally hard to live with in any circumstance, and in the aggregate he presents a very difficult problem that the Colony has, however, met with great success.

The social privileges that the patients have hitherto been debarred from are not only offered, but they are taught to enjoy themselves. The nurses teach the girls to dance, and every evening waltz music is heard. The young men are taught to play baseball, and the Saturday afternoon audience is taught to enthuse over the game. Picnics and games are made as mirthful as is possible to those that do not know mirth; but gradually the spirit of enjoyment serves to drive away the despondent apathy, and the actual en-

joyment of play saves the outbreak of temper which excites the attacks.

That such elaborated schemes of work, combined with amusement, are at the basis of the improvement observed in the Colony's patients, can be proved by noting the reverse side as seen from the experience of the lecturers and assistants. As an example: The master of the brickyard stated that on bright days when each man was busy hauling clay, puddling, pressing or piling bricks, according to his degree of efficiency, there would hardly be a fit among them; but let the day's work be interrupted by showers and the men obliged to congregate in close quarters for an hour in the shed, with leisure to grumble, and quarrel, and sulk, there would be fifteen or twenty attacks in that time.

In the same way, the matron of one of the women's houses stated that if each inmate did her task under pleasant authority, and the day was quiet and well ordered, with some pleasant recreation, the seizures were few and far between; but any scene or excitement that broke the even tenor of the day would be followed by an unusually large number of attacks.

Undoubtedly the mental attitude plays an important part in the frequency of the epileptic attacks, and it is interesting to observe how thoroughly this is impressed upon the minds of those in charge and all their assistants, so that their efforts and skill are all directed to keeping the patients' minds healthfully occupied and happily diverted; thus the evil effect of one person in an attack setting a number of others off only happens occasionally, and then serves as an illustration of how forceful is untoward suggestion and a perverted mental attitude in epilepsy.

One of the chief points of interest to a physician of city practice, where he sees his patients only at intervals, and then in the midst of their own peculiar social surroundings, is the complete revolutionizing of the ordinary haphazard life of competition into the healthful life of a village sanitarium, yet preserving enough of the community spirit to in part support life.

The problems of the resident physicians and superintendent include the civic problems of the mayor of a city, the trustees of a school, the deacons of a church; they require good practical grip on the laws of supply and demand, to feed a thousand people from the products of the soil and stock, and to turn the surplus to money value. They require an immense capacity for executive detail, and a perennial supply of tact to guide a village full of peculiar people into ways of health and usefulness, and at the same time keep a steady eye on the State appropriation and approbation.

Added to all this is the elaborate detail work of a purely medical nature, the study of peculiar cases, the unearthing of causes and experiments on various diet regimens, and the newest methods of treatment that the study of this branch of neurology is constantly suggesting.

My interest in Craig Colony as a social, philanthropic and medical institution increased daily as I perceived its far-reaching effect. Every patient there represents as many homes in the State, and perhaps five times as many working people relieved of the support of a non-productive member. It means the freedom for active labor of at least one member of the family who would otherwise be obliged to care for the helpless one. It means the economic use and development of all the labor that the epileptic is giving toward his own support. It means the greatest opportunity that any country has hitherto had for studying the disease in its hereditary, causative and therapeutic aspects.

And, by no means least, it makes life reasonable and bearable for most, while for others it strengthens and cures; so that, as a physician whose experience has been limited to city clinics and private practice, I hardly know which to admire most—the breadth of mind that evolved Craig Colony, or the conscientious, wise and energetic administration of its affairs.

RECENT EPOCH-MAKING IN MEDICINE—ANNUAL ORATION DELIVERED BEFORE MICHIGAN STATE MEDICAL SOCIETY.

BY SAMUEL BELL, M.D.,

OF DETROIT, MICH.;

PRESIDENT OF THE WAYNE COUNTY MEDICAL SOCIETY; MEDICAL SUPERINTENDENT OF LAKEWOOD PRIVATE HOSPITAL FOR MENTAL AND NERVOUS DISEASES.

AT a meeting of the British Pathological Society of London, April 6, 1875, the "germ theory" of disease was first formally introduced for discussion; the discussions were very animated and earnest and were continued at subsequent meetings. This conference was attended by distinguished medical men, some of whom were profoundly impressed by the arguments brought forward in favor of the "germ theory." The co-existence of bacteria and contagious disease was admitted, but Dr. Bastian, one of the most prominent speakers, contended that they were pathological products spontaneously generated in the body after it had been rendered diseased by real contagion. The grouping of the ultimate particles of matter to form living organisms was considered by the speaker to be an operation as little requiring the action of antecedent life as their grouping to form any of the less complex chemical compounds.

Status of Opinion.—Prior to this meeting in London, Henle in 1840, after mature deliberation, weighing all the evidence that had been collected, determined that the cause of infectious diseases was to be found in minute living organisms or fungi. Henle may be truly looked upon as the true propounder of the "germ theory" of disease. He not only collected facts but formulated opinions and investigated the subject with such great ability that Koch in after years promulgated the same opinions determining the relationship between bacteria and disease. In 1862, Pasteur published a paper on the "Organized Corpuscle Existing in the Atmosphere," in which he demonstrated that many of the floating particles

which he had collected from the atmosphere of his laboratory were organized bodies, and if these were placed in sterile infusions, abundant crops of micro-organisms were obtained; and by subsequent more exact methods and experiments by himself and others, showed clearly that the cause which imparted life to his infusions came from the air. Listerism originated in 1875, and when Koch published his famous work on the Wund-infectionskrankheiten (traumatic infectious diseases), in 1878, it spread slowly at first, but surely to all departments of medicine and surgery.

From time to time as the need was realized, men of genius have provided devices and instruments of material aid in their work; some of these have made possible subsequent discoveries. Among them may be mentioned the improvement of the compound microscope, the use of sterilized culture fluids by Pasteur, the introduction of solid culture-media and the isolation methods by Koch, the use of the cotton plug by Schroeder and Van Dusch and the introduction of the anilin dyes by Weigert. It is an interesting fact to note that after the discovery of the anthrax bacillus by Pollender and Davaine in 1849 there was a prolonged period during which no important discoveries of pathological organisms were made, but during this period important methods of technic were elaborated. This was again followed by a period during which important additions followed each other in rapid succession. In 1873 Obermeier discovered the Spirillum Obermeieri of relapsing fever. In 1879 Hansen made the announcement of the discovery of bacilli in the cells of leprous nodules. During the same year Neisser discovered the specific gonococcus of gonorrhea. In 1880 the typhoid bacillus was first observed by Eberth and independently by Koch. During the same year Pasteur published his work on "Chicken-cholera" and the pneumococcus was described by Sternberg. It was in the year 1882 that Koch made himself immortal by announcing to the world the discovery of the tubercle bacillus, and in 1882 Pasteur published a work on "Rouget du Porc" and Löffler and Schutz reported the discovery of the bacillus of glanders. In 1884 Koch announced the discovery of the "comma bacillus," the cause of cholera, and at about the same time Löffler discovered the diphtheria bacillus, and before the end of the same year Nicolaier the tetanus bacillus. In 1892 Cannon and Pfeiffer discovered the bacillus of influenza. In 1894 Yersin and Kitasato independently isolated the bacillus causing the bubonic plague. In 1894 Sanarelli discovered the bacillus icteroides, supposed to be the bacillus of yellow fever.

During the last quarter of a century the science of bacteriology has made triumphant strides, revolutionizing our ideas, especially in relation to infectious diseases, their etiology, diagnosis and treatment. Among the diseases upon which information has been of greatest value are tuberculosis, diphtheria, tetanus, bubonic plague, etc.

In 1875 there were few scientific men who had accepted the germ theory. The great majority, adhering to the doctrine of spontaneous generation, believed with Billroth that the presence of fungi where decomposition was in progress was an accident result of their universal distribution, or, being more conservative, that their presence in putrid wounds was produced spontaneously, or in unquestionable artificial media.

Diphtheria Antitoxin Treatment.—McFarland says that on his part, all possible skepticism of the specificity of the bacillus of Löffler was dispelled by an accidental infection that kept him housed for three weeks during the busiest season of the year. Without having been exposed to any known contagion from diphtheria, while experimenting in the laboratory, a portion of a living virulent culture of the diphtheria bacillus was drawn into a pipette and accidentally entered his throat. Through carelessness no precautions were taken and as a result of the accident, he says, "Two days later my throat was full of typical pseudo-membrane, which public and private examination showed contained the Klebs-Löffler bacillus."

Prof. Welch of Johns Hopkins Hospital has perhaps furnished the most reliable, as well as the largest, statistics upon the result of the antitoxin treatment of diphtheria. His report, excluding every possible error of calculation, shows an apparent reduction of case mortality of 55.8 per cent. Another very important point shown by Welch, illustrating the importance of early treatment, is that 1,115 cases of diphtheria treatment in the first three days of the disease yielded a fatality of 8.5 per cent. as against 546 cases injected with antitoxin after the third day yielded a fatality of 27.8 per cent. Thus was established the fact that after the toxin had set up destructive organic lesions in the various organs of the body, no amount of neutralization will restore the integrity of the parts; consequently, antitoxins must fail in these cases. The great necessity for early treatment was demonstrated.

Syphilis.—In 1884 and 1885 Lustgarten published a method for staining bacilli which he found in syphilitic tissue and assumed to be the cause of the disease. The most recent research upon the bacteria of syphilis is that of Van Niessen, who claims to have cultivated a syphilis bacillus from the blood of a few cases. In Van Niessen's inoculation experiments there were observed as evidence of the specificity of the organism discovered by him: (1) Abortion in pregnant female rabbits; (2) extra-genital primary lesions on the ears of inoculated rabbits in the form of nodes; (3) secondary ulcer and tumor formations and irregular lesions. The researches of others have up to the present time failed to confirm the above results, consequently the specific bacillus has not been fully established.

Bubonic Plague.—Considering our increased possessions in the Eastern Hemisphere, the importance of the recognition of this most dreaded of all diseases can be appreciated when our United States Marine Hospital Service reports the introduction of the plague for the first time

in the Western Hemisphere. Its appearance in Santos, Brazil, in October, 1899, marks an epoch in plague literature, as furnishing the very first recorded instance of the disease in the Western Continent. During November of the same year the disease was carried to New York by a British steamship. During the latter part of December, 1899, the plague made its appearance in Honolulu, and its appearance in California is so recent that the mere mention is sufficient.

This disease furnished a striking illustration of the scientific advance of modern medicine. It was not until 1894 that positive knowledge of its true nature became known. Prior to that time, all through the centuries, the subject had been enveloped in darkness, and there has been the same groping after facts, the same unsuccessful search for the true cause, the same struggle in ignorance against its ravages on the part of the physicians, sanitarians and public officials as has marked the history of that other dread disease, cholera, now also robbed of its terror by science. Now, the cause of the plague, its method of propagation and the means to prevent its spread, are matters of scientific knowledge. To Pasteur and his contemporary, Koch, is due the credit for the possibility of this discovery by their establishment of bacteriology as a science, and to a Japanese physician, Dr. Kitasato, and to the French Dr. Yersin we are indebted for the discovery itself.

The fact is now established that the plague is an infectious disease caused by a specific bacillus, discovered by Drs. Yersin and Kitasato. The anti-pest serum of Yersin and Roux has been tested and gratifying results obtained, and also from the Haffkine prophylactic serum, the latter for the prevention and the former for its effects upon the bubonic poison, neutralizing the same in the system. The French Commission, who have recently investigated the efficacy of the anti-pest serum in Portugal, report that in cases treated with the serum the mortality was 14 per cent., and in those without it 70 per cent. In a recent lecture given by Roux at the Pasteur Institute, a striking illustration is given of the efficacy of the treatment of the disease by the Yersin serum. "The Bombay manager of the local branch of the Credit Lyonnaise resided with his wife, children and a numerous retinue of native servants, in a dwelling in an infected portion of the city. His little daughter was stricken with the pest in a virulent form; was treated with the serum and made rapid and uneventful recovery. As a precautionary measure the whole family were subjected to inoculation and the same measure of treatment was offered to the native domestics. Some accepted and escaped infection, while six who declined on the ground of religious scruples were all stricken and five died. It seems that a more crucial test could not have been devised or a more triumphant vindication obtained."

The *British Medical Journal* reports the result of the Haffkine prophylactic in the villages of Bombay, showing the reduction of the mortality of those inoculated as 80 per cent.

The work of the recent Federal Commission in establishing the disputed fact that the plague existed in California was a signal triumph for modern scientific achievement.

Typhoid Fever.—Clinical value of the serum diagnosis. In 1896 Widal and Grunbaum, working independently, discovered that when blood-serum from typhoid-fever patients is added to cultures of the typhoid bacillus a definite reactive phenomenon occurs. This phenomenon is known as the "Widal reaction," and consists in complete loss of the motion of the micro-organisms, so that they gather into clusters or groups—agglutination. The Widal test was applied to 230 cases of typhoid fever among soldiers who had enlisted in the Spanish-American War and who were treated in the Medico-Chirurgical Hospital. Of these, 219 reacted positively, or 95.64 per cent. of the total number examined. The results obtained in Osler's wards in the Johns Hopkins Hospital by Block and Gwyn up to November, 1898, show that in 151 cases the reaction was present in 144. Granting the precision of method of serum diagnosis, it is doubtless of great diagnostic importance. As shown by the statistics given, the reaction failed to develop in only 4.5 per cent. out of the total of 2,393 cases of typhoid fever. And it is probable that this small percentage of failures would be reduced if the test (when negative at the first examination) were repeated every day or two until convalescence is fully established.

Stomach.—During the last ten years phenomenal advancement has been made in the diagnosis and treatment of disease of the stomach: The gyromele has been invented; the gastrodiaphane perfected; the perfect gastric electrode invented; the gastric bucket invented; X-ray pictures of stomach made; a quantity of lavage apparatus devised; gastroscopy made fairly practicable, and a number of gastric operative procedures devised.

Scope and Clinical Value of Blood-Examination.—Hematology being a comparatively new study and sufficient time not having supervened since the beginning of blood-examination for clinical diagnosis, the limit of usefulness has not yet been determined. Thus far the results have been very uncertain, disappointment sometimes resulting when the opposite was expected and again much light has been thrown when least anticipated. There are not as many diseases as we have fingers in which the diagnosis is made by blood-examination alone, but there are many diseases in which blood-examination is a decided help; not definite signs, but links in a chain of evidence are what we expect and get. On the whole, blood-examination is not second in results to examination of the urine. Both methods give definite results in a few diseases, and sidelights in many obscure conditions, even if the examination is negative. It has one very decided advantage, *viz.*, that the examination can be

made during the life of the patient, and like all methods of physical examination, if there is any cause, such as insanity, stupidity or unconsciousness, preventing the intelligent communication with patient, and in all febrile diseases much light can be given.

The Rôle of the Mosquito in Fevers.—It is now conceded to be a fact that the genus Anopheles conveys the parasites of malaria from man to man. A résumé of the literature on this subject would consume an entire evening. Important observations are now being made by original workers in the tropics and much information of practical value to the clinician is being worked out. The most striking fact which has apparently been definitely established and corroborated by recent experiments is that the cause of yellow fever is present in the blood of those attacked, and that certain mosquitoes can inoculate and that it is not transferable by the fomites. This is looked upon as a very important medical discovery, removing a large part of the mystery relative to the etiology of yellow fever.

Cancer.—Relative to the cause of cancer, Roswell Park of Buffalo and his collaborators at the State Hospital have been doing some excellent work. Park reports having been able to produce a true adenosarcoma in an animal by inoculation with fluid from the peritoneal cavity of a man suffering from colloid cancer of the omentum.

The Roentgen Rays in Practice.—Since the discovery, about five years ago, of the Roentgen rays, great advances have been made in the practical application of this mysterious form of energy. Somewhat reckless predictions have been made, born of enthusiasm at the startling revelations. However, time, which is of such great importance in testing new discoveries, has proven that the application of the rays is of great diagnostic and therapeutic value. At one time it was seriously feared that the prolonged exposure thought necessary for successful observation would interfere with its usefulness. Valuable improvements have been made in technic enabling the obtaining of very important results in brief periods and with our present knowledge, a diagnosis is possible in shorter time and with greater precision than could be obtained in any other way. With it, foci of tuberculous infection can be distinguished earlier than by the ear. It will show either unilateral or bilateral enlargement of the heart with any displacement of the organ. Emphysema, asthma, pleurisy, hydropneumothorax, pyopneumothorax, hydrothorax, and pneumonia, are all easily recognized and their limits demonstrated. Thoracic aneurisms are recognizable in their early stages. Cavities which have escaped detection by auscultation or percussion may be discovered. The presence of fluid in the pleural sac may be positively determined. Dr. Senn refers to the use of the X-ray during the late war as fully answering the expectations for diagnostic purposes. He says: "During the Spanish-American war the skiagraph enabled us to diagnose the existence or absence of fracture in a large number of doubtful cases in which we had to depend exclusively on this diagnostic resource. In fractures in close proximity to joints it has been of the greatest value in ascertaining whether or not the gunshot fracture extended into the joint. In the light of recent experience the X-ray has become an indispensable diagnostic resource to the military surgeon in active practice, and the suggestion the every chief surgeon of every Army Corps should be supplied with a portable apparatus and an expert to use it, must be considered a timely and urgent one." Its limit of usefulness has not yet been determined in medicine, but the X-rays have rendered valuable aid in the treatment of diseases of the skin, among them lupus vulgaris, lupus erythematosus, chronic eczema, vascular nævus, hypertrichosis, favus, and sycosis, and also in other pathological conditions of internal organs.

Neurology.—In considering the burning questions of the day one must include the bacterial toxins, serotherapy, organotherapy, autointoxication and the relations of the internal secretions to problems connected with the nervous system, that part of the human organism which in the main is accountable for man's lofty position which he holds among animals. The last decade has given birth to unprecedented activity in connection with the progress in neurology. The results obtained have led to a complete revolution in our ideas concerning the elements of the nervous organs and their mechanical relations and supplied us with a host of new methods of investigation in the prosecution of the study of the nervous system in health and disease. Entirely new avenues of research have been opened and problems heretofore thought beyond the reach of scientific inquiry now seem within human grasp. So numerous have been the methods of original research pursued that space and time forbid passing them in mental review.

I shall briefly mention a few of the main achievements in neurological science. Among the names which have shed new luster on the subject is one Ramon y Cajal; his connection with original work has been both brilliant and fruitful. If popular history can be relied upon, the story of the young Spaniard is remarkable from a medical standpoint. Developing in a country remarkable for its barrenness in original research, he applied for a position in microscopy, which was refused him. Being industrious and ambitious, his pride was wounded keenly. Disappointed, but not discouraged, he purchased a small library on histological subjects and microscopical appliances and began his original work, paying special attention to technic. He practically ostracized himself from society, worked like a slave and a decade later found himself famous. A brief inquiry into the contributions of this Cajal cannot fail to make clear why from different parts of the scientific world his productions attracted attention and gained for him a professorship at Madrid and notice and appre-

ciation by international audiences. This has been accomplished since 1888. Among the original contributions are: (1) the demonstration of the complete independence of at least the majority of nerve elements; (2) the appreciation of the widespread occurrence and significance of the lateral branches of the axis-cylinder processes; (3) the demonstration of the striking uniformity in general structure of the majority of nerve elements in all parts, despite minor morphological elements.

Since 1880, investigations of Golgi, His, Kölliker, Cajal and others have produced a complete change in our ideas, in relation to the elements of which the nervous system is constructed and also the mode in which these elements are architecturally put together. The Golgi method of staining tissue has become recognized in the whole scientific world, as the pictures of nerve-cells and their processes obtained by this method are incomparably superior to those obtained from any other method. Cajal, with his incomparable genius, made new applications of the Golgi method which created widespread attention and were looked upon in the light of a new discovery, and anatomists everywhere, in Germany, Von Kölliker and others, in Belgium, Van Gehuchten, in Sweden, Retzius, in England, Schäfer and Andriezzen, in America, Berkley and Strong and a host of others in this and other countries, set to work with this new method of osmo-bichromate mixture and silver nitrate and in a short time a new vista was opened up, and information supplied regarding the reciprocal relations of nerve units in the various parts of the cerebrospinal and sympathetic nervous system. The connection of the axis, cylinder processes of the cells of the neural horns with the axis cylinder, of the fibers of the motor roots of the spinal nerves, were first absolutely established by Weigert's method and the carmine methods of Gerlach. This in conjunction with improved technic in sectioning has contributed greatly toward the investigations in neurology.

The Neuron Concept.—In 1891 Waldeyer brought to the notice of the profession the doctrine of the individuality of the nerve elements. The neuron concept of the nervous system, in a nutshell is briefly, as follows: The nervous system, aside from its neuroglia, ependymal cells, blood-vessels and lymphatics, consists of an enormous number of individual elements of neurons. Each neuron in its entirety representing a single body or cell. The foundation for the neuron doctrine rests upon the following facts: (1) That the nervous system agrees with other parts of the body in being cellular; (2) the proof that in the embryo the nerve-cells exist as independent units, many of which are capable of wandering for considerable distance from the origin; (3) the fact that the nutrition of the nerve-cells is most easily explained from the standpoint of a doctrine which looks upon the nervous system as made up of units, which are not only anatomical but physiological.

Since this doctrine was advocated a large amount of work upon degeneration of nerve fiber and cells, has been done, especially by Marchi, which confirms the validity of the neuron doctrine; the latter being of value in enabling the histologist to follow the diseased nerve fiber to its termination. The conception of the neuron has helped to facilitate our understanding of some diseases, in showing that there is no cardinal distinction between gray and white matter, and it has helped to unravel the mystery which formerly surrounded those diseases that involved almost simultaneously the various systems of white fiber and the gray matter. Proportionately with the growth of the neuron concept the value of systemic diseases is lessened.

Psychiatry.—Do what we may, we cannot separate mental diseases from organic diseases of the brain and, indeed, diseases of many other organs of the body. The line of demarcation is so indistinct between the mental and physical conditions that in many instances one merges into the other. One of the foremost alienists of Europe said some time ago that psychiatry is on a level with the medical sciences of a hundred years ago, and that it was based wholly upon clinical studies and not upon pathological anatomy of diseased organs. A few years ago the American Medico-Psychological Association, whose membership is made up chiefly of men in charge of hospitals or asylums, where the insane are cared for, invited Dr. Weir Mitchell of Philadelphia to deliver the annual address. The eminent physician during the course of his remarks made some severe criticisms upon the lack of scientific work in hospitals for the insane, which aroused some indignation. That there is abundant material for scientific work, both clinical and pathological, in our large asylums, is undeniable and that there has been marked advance, both in the character of the clinical work done, also in honest endeavor along etiological lines, is conceded. That greater advancements have not been made is not to be entirely attributed to inertia on the part of those in charge, but is largely due, especially in relation to causation, to the well-known fact that the morbid pathology of the brain is more compiex than any other part of the human organism. Our asylum reports to-day, instead of being full of stereotyped data, are fast becoming storehouses of useful information, in relation to all that pertains to the care, cause and treatment of these unfortunates. To the practical psychiatrist the question of domiciliation does not overshadow every other desideration as it has done in the past. During the last decade the importance of the early diagnosis and treatment of mental disease, with accompanying pathological conditions, prompt separation from domestic surroundings and skilful treatment, mental, moral and physical, are questions which are of intense interest. The closer observation and recording of clinical facts and more systematic laboratory work by competent persons, either on the staff

or outside, have been established in many institutions. The pleasant, cheerful rooms and airing-court have taken the place of the darkened cell. We have the trained attendant, the beautiful grounds and modern architecture. The Kirkbride system took the place of the old quadrangular form of building, and now the cottage system in some form is fast superseding all others.

The work of Meynert on the cerebral cortex and the researches and experimental labors in Europe of Charcot, Flechsig, Wernicke and others, have done much to illumine hitherto considered impervious conditions. The work of the New York Pathological Institute under the leadership of the brilliant Van Gieson has received the recognition and commendation of many of the original investigators of this country as well as those of Europe; also the original contributions of Berkeley on the pathological lesion of the brain have stimulated the study of psychiatry throughout the hospitals for the insane of the United States. It is in keeping with this spirit and the honest endeavor on the part of those interested in the science of psychiatry, together with the increase of insanity ever and above the increase in population, which makes possible a psychopathic hospital in our State as established in connection with the older universities of Europe. At the present time there is no branch of medical science which offers so many interesting problems to solve. The past has been full of disappointments, but the future is full of hope.

We begin the twentieth century under most encouraging auspices. The century just closed will be known as the period of marvelous scientific achievement, pertaining to many of the departments of medicine and surgery and bringing to an end the age of dogmatic medicine. There are still many important subjects now receiving the most careful and profound consideration from scientific men in different parts of the globe; science in its march of progress knows no nationality, from Germany, Belgium, Sweden, Japan, Russia, Italy, France, Spain, England and our own country, come the reports of work embodying the true spirit of scientific research to an eminent degree. What of the future? That more brilliant achievements are soon to follow, few will doubt. Serotherapy is in its infancy and, although one of the crowning triumphs of the nineteenth century, in its use there are certainly great possibilities.

Psoas Abscess.—In these cases, even with very large abscess, R. W. MURRAY, LARKIN and others (*Liverpool Medico-Chirur. Jour.*, Sept., 1901) have obtained complete cure by incision in both lumbar and iliac regions, and sometimes also in the femoral region. The abscess cavity is thoroughly cleansed and the wounds all closed without drainage. The good results have been especially observed in children.

DEFORMITY ARISING FROM INJURY TO THE LOWER EPIPHYSIS OF THE TIBIA.[1]

BY B. E. M'KENZIE, B.A., M.D.,
OF TORONTO, ONTARIO, CANADA.

Case I.—In 1890 a boy eleven years of age had a gradually increasing deformity of the left foot. The following history was given: At two years of age he had disease of the tibia requiring operative intervention. The anterior surface of the tibia was marked by cicatrices. The foot was carried inward so that the body

weight was transmitted to the ground along a line passing to the outer side of the foot. This deformity was observed to increase constantly and the disability was more marked as time passed. The explanation which suggested itself as the causative factor in this increasing deformity was in a relative shortening of the tibia in its relation to the fibula. This relative shortening no doubt resulted from the inflammatory affection of the bone in infancy, which had caused a synostosis at the junction of the lower tibial epiphysis with the shaft and consequent relative loss of growth in length of that bone while the fibula made its normal increase in length.

Operation.—A section about one inch in length was removed from the fibula subperios-

[1] Read at the meeting of the American Orthopedic Association, June 11, 12 and 13, at Niagara Falls.

teally and the tibia was cut through at the same level as near to the lower end as was thought safe, and the foot moved outward in its relation to the leg, to its normal position. On account of the boy's age it was thought that the deformity would recur, hence the epiphyseal cartilage was removed from the lower end of the fibula. Healing was satisfactory and the result gratifying, the boy having a well-placed foot with about two inches of shortening. Some years subsequently it was found that the foot retained its corrected position and that the measures adopted had been entirely successful.

Case II.—T. W., sixteen years of age, while playing in a barn three years previously, had jumped from a height, fracturing the leg near the ankle. The adjustment of the fracture and recovery were uneventful, the leg and foot being found in good position with normal movement. After the lapse of nearly a year it was noticed that the foot was disposed to turn over upon its outer border and this tendency increased constantly as time passed, till at the end of three years the foot could not be kept directly under the transmitted body weight and walking was becoming increasingly dangerous.

It seemed manifest that either the primary injury consisted of a separation of the tibial epiphysis or that the process of healing in a fracture near the epiphyseal junction had caused premature osseous union between the epiphysis and the diaphysis.

Operative measures similar to those employed in Case I. were carried out, with the exception that the age of the boy precluded the necessity of removing the epiphyseal cartilage from the fibula. The result is highly satisfactory.

Case III.—Norman T., eight years, when playing in a harvest-field four years previously, had run in front of the knives of a reaping-machine, which cut the leg just at the ankle-joint, so that the only structures left uninjured were the tendo Achillis and the blood-vessels, nerves, and tendons behind the inner malleolus. The surgeon in attendance found that numerous pieces of bone had been shaved off. These were removed and the suturing of nerves and tendons carefully done. Healing was satisfactory and the result excellent, the foot being in good position and having good movement.

After a considerable lapse of time an inward displacement of the foot was observed similar to that described in the former cases. A similar explanation, I am confident, will alone account for the deformity. So far as I know there has been no operation performed as yet for the relief of the deformity in this case.

Separation of the epiphyses is not of frequent occurrence; and of the various epiphyses separation of that of the tibia is one of the less frequent to happen. Mr. Hutchinson, as quoted by Treves, in 1895 had seen 17 cases of separation of the lower radial epiphysis; 14 or 15 of the lower humeral; 13 of the upper humeral and 10 of the lower femoral. In a collection which he made of over 350 reported cases there were of the lower femoral 75; upper humeral 66; lower radial 54; lower humeral 52; internal epicondyle 38; lower tibial 27; upper femoral 26; great trochanter 11; upper tibial 10; tibial tubercle 6; lower ulnar 6; upper fibular 4; clavicular 3; upper radial, upper ulnar, and lower fibular 2 each; small trochanter 1.

I can find no reference in literature to the production of the deformity which has been described in this paper. Synostosis at a time when the growth is not complete, and consequent relative shortening of a limb are frequently noted; but I have not found any reference to deformity consequent upon early synostosis occurring in one bone at a part where there are two bones forming the proximal portion of a joint. I have not seen a similar deformity of the hand, but have seen a plaster model of a hand and arm whose deformity must have been caused by a similar epiphyseal injury.

12 East Bloor Street.

DANGERS TO PUBLIC HEALTH AND MORALS, ESPECIALLY TO YOUNG PERSONS, FROM QUACKERY, AS PROMULGATED BY PUBLIC ADVERTISEMENTS.

BY E. STUVER, M.S., M.D., PH.D.,
OF FORT COLLINS, COLORADO.

Quackery is defined by the Standard Dictionary as "boastful pretension, or ignorant or fraudulent practice; charlatanry."

True scientists and really great discoverers are modest and unassuming. From Hippocrates down to our own quiet workers nearly all great advances in arriving at a clearer and more thorough knowledge of the causative factors of disease and the best means of effecting cures and alleviating human suffering as well as the most effective methods of staying the ravages of plague, pestilence, and epidemic diseases have been accomplished by men who shunned publicity and notoriety, who spent long years of patient and arduous toil in perfecting their results.

Were these men sustained, encouraged and helped in their unselfish efforts to remove the ills, soothe the sufferings, and raise mankind to a higher and happier plane? The echoes of history reverberating down the corridors of Time answer with a most emphatic No! Instead of being helped, encouraged and rewarded, they were nearly always abused, vilified, and in some cases almost mobbed on account of the work they were doing. As illustrations of this, wtiness the struggles and persecutions through which the early anatomists and physiologists had to pass in their endeavors to gain a clearer and more comprehensive knowledge of the structure and functions of the human body for the purpose of curing or alleviating its diseases. Think of the ridicule and abuse heaped upon Jenner, the immortal discoverer of vaccination, whose great discovery saved many lives, relieved much suffering, and,

by lifting the dark pall of terror and dread, did much to raise mankind from the abyss of gloom and despair, and, while endowing all races and peoples with safety against this dread destroyer, inspired them with hope and comfort.

We need not go back to the remote past for examples of this perversity and misrepresentation; we have our own antivivisection societies, and other obstructionists who are "moving heaven and earth" and resorting to every means, fair and foul, in their efforts to impede the progress of science and obstruct the work of scientific investigators. In order to compare the conditions under which we at present live, and those which existed under the régime of empiricism and restrictions for which the obstructionists are so loudly clamoring, let us draw aside the curtain of history and gaze on the results of thousands of years of empirical experience.

Do this, and we behold plague and pestilence sweeping over the land, leaving desolation and death in their track. Here we see cities converted into vast charnel houses, the streets covered with dead bodies, and not enough well to care for the sick and dying; there we behold uncoffined corpses rolled into great trenches, or left as food for ravening animals or to pollute the atmosphere.

We who enjoy the immunity afforded by vaccination can scarcely believe that such ravages were caused by smallpox in London as are so graphically described by the historian Macaulay, who informs us that it was a rare thing at one time to find a person in that great city not disfigured or marked by the dread disease. When we emerge from the mephitic atmosphere, laden with ignorance, disease and death, of the London of two centuries ago, with its death-rate of 80 to the 1,000, into the clear light of sanitary and medical progress of the present time with its death-rate of less than 20 to the 1,000, in civilized countries, we feel like one who has passed through some terrible danger, who has been surrounded by invisible and relentless enemies, which, happily, have been routed or are being put to flight by the knowedge resulting from experimental investigations.

But why, you ask, are such things possible? How can human perversity go to the length of standing in the way of those things which are most essential to human development and the welfare of the race? How can reason tolerate such a suicidal course?

To the unselfish lover of truth and humanity the above may seem an insoluble question, but the careful student of men and events, who clearly sees the intimate commingling of good and evil in the world, appreciates the fact that while good is generally quiet and retiring, depending on the truth and justice of its claims to secure its ultimate recognition, error and pretension are bold and arrogant, and use every possible means to compel the world's recognition, and supplant the truth.

Quackery, owing to the boldness and effrontery of its claims as well as the insidiousness and wide diversity of the means used for its promulgation, has become firmly established and is making most strenuous efforts to maintain its position. While many things contribute to the continuance of its influence and power, no other one agency is so powerful; indeed, I believe I am justified in saying that all other agencies combined are less potent in maintaining its baleful prestige than public advertising and public notices in newspapers and magazines.

In proof of this statement I desire to call attention to the following facts: The statements, arguments and everything calculated to promote the propaganda of antivaccinationists, antivivisectionists, Christian scientists, osteopaths, vendors of quack medicines and sure cures of all kinds, as well as fakirs and swindlers of every class, nationality and description, who are using every means in their power to hinder and impede scientific medicine and sanitary science, are given laudatory notices and unlimited space in the newspapers, while the scientific physician is not even accorded space in the papers which published the pseudo-scientific vaporings, misrepresentations, and attacks, to answer them. Why is this? Because these fakirs pay well for their advertising space; indeed, they contribute a considerable part of the revenue of large newspapers, and as reputable physicians do not do this, the advertisers receive the whole support of the newspapers, no matter how false their statements or how nefarious or harmful their business may be. Then, too, when so-called commercial or business interests are at stake, behold how these self-constituted guardians of public health, conservators of public morals, and promoters of justice and truth do vilify those who are trying to do their duty and protect the public! How they cover up or pervert fact, and use every means in their power to hinder scientific investigations was well illustrated in the recent outbreak of bubonic plague in San Francisco. Such a policy as this, like the ostrich hiding his head in the sand, is extremely shortsighted and harmful, suicidal, indeed, we might say, because when the truth becomes known, the right prevails, and the guilty city or town must suffer the penalty of its selfishness and duplicity.

By the prominence given in the newspapers to the statements of those who oppose sanitary measures, such, for instance, as the opposition to vaccination, the isolation or quarantining of contagious diseases, and similar measures, many people are led to believe that such measures are unnecessary, and a harsh assumption of arbitrary power; also that they are only advocated by a small clique of health officers, so that, instead of hearty co-operation with the health authorities in their efforts to stamp out disease, cases are concealed and new foci of infection are established. This results in the spread of diseases and in much loss, suffering and death. In the same way the wide publicity given by means of public notices, to the opposition to scientific experiments

on living animals, which have for their object the discovery of new agents and measures for the prevention and treatment of such diseases as diphtheria, typhoid fever, yellow fever, bubonic plague, etc., have created such a popular prejudice against this beneficial work that it is with the greatest difficulty that the passage of restrictive laws are prevented. Every one who has ever studied the subject in an unprejudiced manner knows that many of the most useful and beneficent discoveries that have ever blessed humanity have been the direct result of these experimental investigations on living animals, and they cannot fail to see that the great publicity given to the loud vaporings and maudlin sentimentality of the antivivisectionists is a serious menace to the public health, besides interfering with scientific progress.

The large amount of space given by the newspapers to osteopaths, Christian scientists, and all kinds of blatant medical fakirs and vampires, is detrimental to sanitary science and public health, because it is largely through advertising that the exaggerated or false claims of these pretenders are forced upon the people. Many a man and woman has been duped, and themselves, as well as their children, made to suffer, through ignorance or cruelty because they believed the advertisements in their newspapers and were thus induced to entrust the health of themselves and their families to the care of these so-called "healers."

Had these same people come to them without the endorsement of a paper or magazine in whose honesty of purpose and integrity they had confidence, they would have laughed at them for their pains.

Truth, honesty, and virtue, and obedience to the laws of man, Nature and God, are the fundamental principles and crowning characteristics of a noble manhood and womanhood. I shall define crime, vice and sin as follows: Crime is a violation of the laws of legitimately organized society; vice is a violation of the laws of Nature, and sin is a violation of the laws of God. Any cause, influence, or instrumentality which weakens man's love and respect for truth, honesty and virtue, or lessens his obedience to human, natural and Divine laws, to that extent impairs the grandeur and nobility of his character, and lessens his influence toward society.

Taking these fundamental principles as a criterion by which to judge, let us see what influence quack advertisements exert on public morals. A systematic exaggeration and often misrepresentation permeates public advertising in every business, profession and calling of life. But while this is true of all vocations, nowhere is it so fraught with danger to the health and morals of the people as in connection with the exploitation of remedies and agencies designed for the cure or alleviation of the many physical and mental ailments to which the human race is subject. "A little learning is a dangerous thing." "Drink deep, or taste not the Pierian spring" is an injunction which would be of immense benefit to the great majority of people, if they would but apply it to the management of their physical ills, about which they are profoundly ignorant. Even eminent ministers, judges, and politicians, who may be very learned in their own particular callings, in most cases exhibit gross ignorance and crass credulity when they attempt to pass judgment on medical subjects. This is very unfortunate for the people, because, were it not for the fostering help and assistance of these eminent patrons, many of the humbugs and harpies who are now preying on society would pass into "innocuous desuetude," and die of inanition.

If a half truth is the worst kind of error, what must we think of the patent medicine advertisements, which with all the arts of the modern advertiser, try to delude the public into believing (and often do it, too) that their grain of truth mixed with bushels of the chaff of error is all pure seed and will germinate and yield a most bountiful and beneficent harvest? What a shock must the poor deluded victim experience when, instead of the rich and bountiful feast he was promised, he receives but a single bite. How must his regard for truth and honesty be affected by such wonderful results!

How beautiful his simplicity, faith and confidence in the truth and honesty of mankind *before* investing in the much-lauded *sure cure* for consumption, cancer, epilepsy, or some other incurable disease! How shattered all his aspirations *after* he has seen these vaunted pretensions, like apples of Sodom, fall to ashes in his hands! Surely, he must conclude that the standard of honesty and truth which permits the pious minister, the learned judge, or the brilliant and versatile politician to praise and recommend the nostrums by which he was deceived and defrauded, ought to be good enough for him, and he henceforth continues life on a lower moral plane. But, while exaggerated and lying advertisements are slowly but surely sapping the foundations of truth and honesty, a thousand times more harm is being done by means of an insidious and deadly virus with which they are poisoning the very foundations of virtue, and swelling the deadly stream of vice, crime and sin! Take up almost any of our great dailies, and what will you find? In one column you may read the flowery, rhetorical outburst of an eloquent divine as he descants on the purity of the press, and nearby the fervid appeal of the conscienceless fakir who no less eloquently recounts the virtues of his specific for "lost manhood." On one page may be found a dissertation on the home and its sanctity, the sacredness of human life, the proper education of children, and the inculcation of correct moral and ethical principles, while on the next you will see a glowing eulogy on the effectiveness of "Mr.——'s" fakir "tansy pills, as a "sure cure for ladies in distress." Carried away by the tide of great achievements, you will meet in another column the blazing and much pictured "ad" of "Dr. Cure-em-all," who

positively guarantees to cure syphilis and all blood diseases, and remove to the last dregs the results of youthful indiscretions. Here we learn how the worn-out old debauché may be restored to his pristine vigor, and be sent on his way rejoicing, perchance to bring into the world a stainless progeny in his old age; how the ills and satiety of the ancient leader of the *fast set* may be removed, and she be re-habilitated in the charms and beauty of youth and the roseate dreams of twenty years ago return in all their glory.

Is it any wonder, then, that, with such claims and promises as these daily brought before his eyes, the youth is encouraged to plunge into excesses that he would have avoided had he been plainly and honestly told that every violated law of Nature would surely be punished with unerring certainty, and that instead of the results of his profligacy and vice being easily, pleasantly and safely eradicated, they would be transmitted to enervate and curse his children for generations in the future? Would he be so reckless and profligate in "sowing his wild oats" if he felt assured that his condition would, in a large percentage of cases, consign a loving, trusting wife to a life of chronic invalidism or an untimely grave? On the other hand, would the young girl who is strongly tempted by the impulses and environments of youth be so likely to yield to temptation and abandon the path of virtue, had not the siren and delusive song of the advertisement, ever before her eyes, impressed on her mind that "——'s tansy pills" were an unfailing safeguard and a sure anchor of hope in the hour of dire necessity? If she felt that motherhood would probably be the penalty of yielding to passion, there would be a strong restraining influence to keep her virtuous. "*Decensus averno facile est.*"

"Vice is a monster of so frightful mien,
As to be hated needs but be seen,
But seen too oft, familiar with her face,
We first endure, then pity, then embrace."

These words of the poet very truthfully and vividly portray the influence that may be exerted by the vile, erotic and depraving advertisements which are ever before the eyes of the young, and the condition of those who, having abandoned the paths of truth and virtue, are rapidly whirled along towards the vortex of physical and moral destruction.

First high, noble and Christian sentiments are disregarded and become obtunded; then yielding to the influences of the insidious and fatal virus, minor indiscretions are committed; later vice, istead of being a monster of frightful mien, seen through the mists of a perverted mind and unrestrained passions, becomes a goddess arrayed in splendor and glory, and is gladly clasped to the bosom, and finally, the dim specter murder, in the form of the abortionist, becomes a welcome refuge to the unhappy victim who conceals the foul, cowardly and unnatural crime, and even attempts to excuse its commission.

While some may think this indictment is too severe, I am convinced that no one conversant with the facts will deny the truthfulness of the picture. That criminal abortion is disgracefully prevalent, every physician only too well knows; that it is a most serious crime, being no more or no less than plain murder, as viewed from a biological standpoint at least, all right thinking persons will admit; that it is leaving a broad trail of physical and moral death and devastation, and is a potent cause of degeneration in our people, is very well known; still with all these facts plainly before us the newspapers are permitted continually to publish their vile suggestions and incentives to this horrible crime.

In conclusion, I desire to present the following summary:

1. The great life-saving discoveries have been made by quiet, unobtrusive men.

2. Quacks and charlatans have never made any great discoveries in sanitary science, but, on the other hand, have always opposed scientific progress and investigation.

3. Quackery flourishes best in an atmosphere of ignorance, credulity, and pseudo-science, and is promulgated by boastful, arrogant pretensions, and public advertising.

4. Antivaccinationists, antivivisectionists, Christian scientists, *et id omne genus,* by opposing preventive sanitary measures and scientific investigations, facilitate the spread of contagious and infectious diseases, oppose the stamping out of diseases already established and impede investigations as to the causation, prophylaxis and cure of disease.

5. The newspapers, which derive a large part of their revenue from advertising, nearly always espouse the cause of the so-called commercial interests, regardless of the fact whether they are supported by truth and justice, or are opposed to the best interests of the public. This is well illustrated by the recent occurrence of bubonic plague in San Francisco.

6. The boastful pretensions and misrepresentations of quack advertisements (patent medicines) lower the public regard for truth and fair dealing and encourage falsehood and duplicity.

7. The bold and shameless introduction of advertisements, calling attention to and suggesting vile, immoral and even criminal acts, debases and demoralizes the young, and leads to disease, crime and degeneration.

MEDICAL PROGRESS.

Scarlatinal Nephritis.—The anatomical changes in the kidneys during the first week of scarlatinal nephritis consist in a circumscribed or more diffuse cellular infiltration. In the second week there is besides this degeneration of the epithelial cells of the straight and convoluted tubules with occasional embolic foci of necrosis. It is only in the third week, according to A. BABINSKY (*Klin. therap. Woch.,* Oct. 27, 1901), that marked changes are noted in the Malpighian capsules and glomeruli. The im-

portant clinical symptoms are: (1) Fever; this may still be due to the scarlatina or one of its complications. Sometimes it is entirely absent and even fatal uremia may occur without any rise. In most cases, however, there is a gradual or a more sudden rise up to 39 or 39.5° C. The most dangerous forms are those with highest fever. Finally, there is a group of cases in which every exacerbation of the nephritis is marked by a new rise. (2) Pulse; generally there is no definite relationship between this and the fever. The wiry condition of the pulse in uremia is peculiar. (3) Amount of urine; in typical cases this is diminished, yet there may be normal quantities of normal specific gravity voided and anuria with a fatal issue may set in suddenly; or there may be polyuria up to 2,000 c.c. in children from six to eight years. (4) Foreign elements in the urine; cases with large amounts of albumen are the most dangerous; when the urine contains hemoglobin and has a dirty, coffee-brown color, the outlook is serious, yet cases with over 4 pro mill. albumen have been cured. (5) Hydrops; in its mildest form this manifests itself in edema of the eyelids. More marked edemas of the skin and effusions into the serous membranes considerably influence the prognosis and are apt to be complicated with bronchitis and pneumonia. Only in cases which come to treatment during the first five days can prophylactic measures be taken. (6) Uremia; with this there may be arhythmia and a wiry pulse, delirium, crying spells, aphasia and singultus. The amount of urine is subject to considerable variation; there may be anuria or polyuria. Very often the mildest cases are followed by the severest attacks of uremia, in most cases, however, the outlook is fair. Of 88 cases of nephritis under observation the author lost 11, and of these 3 were complicated by other disorders. In 18, however, a chronic albuminuria remained, which in 5 developed later into chronic nephritis. The most careful prophylaxis and most painstaking therapy are unable to prevent the appearance of nephritis, but will do much to ward off the hydrops, uremia and subsequent chronic nephritis. The patients must remain in bed four weeks; during the first two only milk is to be given and during the last two a solely vegetable diet. It is best not to give any drugs at all and only to administer tannic acid in prolonged albuminuria or hematuria. Diuretics are only to be employed in the form of alkaline waters. The uremia is combated by means of venesection, sweating, chloral and chloroform. For chronic albuminuria, change of climate is indicated.

Catheter Fever.—The importance of absolute asepsis in the introduction of instruments into the bladder to ward off catheter fever is ably discussed by C. POSNER (*Deutsche Klinik.*, Vol. 10, p. 34). The hands demand an attention equal to that for a major operation and the instruments must be absolute germ-free—a condition which is easily obtained with those of metal, but is more difficult with the elastic catheters where disinfection in formalin-vapor or in streaming steam is suitable. The cleansing of the meatus is safely accomplished by means of soap and sublimate and for the urethra a weak solution of boric acid is serviceable, though less thorough, so that it is well to follow the introduction of instruments by irrigation with a 1:1000 silver-nitrate solution. For the development of fever, which in the majority of cases depends upon an infection, stagnation of the bladder-contents, which allows the germs to gain a good foothold, and often a loss of continuity, which permits the bacteria or their toxins to enter the system, are necessary. The mildest forms of infection do not show themselves by fever, but by a mere turbidity of the urine, due to pus cells, which goes to show that the deeper parts of the entire urinary system possess means of protection against the overflooding of the system with germs. This protection is least in the posterior urethra, owing to its connection with the prostate, which is rich in lymphatics. The loss of continuity is generally a direct result of mechanical injury; often, however, the sudden relief on drawing off the urine causes rupture of the vessels and thus a ready means of entrance for bacteria. But few cases depend upon absorption of toxins alone and here also an injured mucous membrane is necessary, since the healthy mucosa of bladder and urethra do not absorb. The symptoms of catheter fever resemble the invasion of any other fever; where absorption is prolonged a sort of intoxication manifested by dry tongue, small and irregular pulse, general malaise and, in the severest cases, subnormal temperature occur. The two chief internal antiseptics which have yielded good service in the treatment of catheter fever are quinine and urotropine. The latter is especially valuable in central vesical paralysis. The question of local treatment is much more difficult to answer and must be decided for each individual case. Where there is a fresh wound and the urine must constantly pass over raw surfaces, a permanent catheter often is excellent. In all cases free action of the skin, kidneys and bowels is to be secured.

Painful Micturition in Gonorrhea.—

℞	Sodii salicylat....	gm. 8.0	(ʒij)
	Ext. bellad.....	0.3	(gr.v)
	Tinct. aurantii.....	5.0	(ɱLXXV)
	Aquæ.....q.s. ad	180.0	(ʒvi)

M. Sig. A dessertspoonful every two or three hours.

—E. GERBERT (*Bulletin de Thérapeutique.*)

Tuberculous Pericarditis.—In a case of this kind reported by DEMPSEY (*Dublin Jour. of Med. Sci.*, Oct., 1901), the fifth left intercostal space was incised under beta-eucaine, the internal mammary vessels tied, the pleura pushed aside, the pericardium incised, and about 1,500 c.c. (50 oz.) of clear fluid evacuated. This was subsequently found by culture and by microscopical examination to contain tubercle. The patient felt much

relieved after the operation, but suddenly died convexity of the aortic arch was thought to be pletely caseated state and situated close to the the same evening. A lymphatic gland in a comthe origin of the pericardial affection. The question arises as to the rôle played by the rapid evacuation of fluid in the sudden death.

Epilepsy.—"A really good prognosis can seldom be given," writes SIR WILLIAM GOWERS, "unless all the attacks are averted by the bromides in moderate doses, such as fifty or sixty grains a day." His treatment is by potassium bromide, no advantage of other bromides over this having been noted. In 1899, at the National Hospital for Paralyzed and Epileptic, there were used 3,664 pounds of potassium bromide, 313 pounds of sodium bromide, and 123 pounds of all other bromides. The bromide acne eruption may be entirely prevented by the addition of arsenic. Borax, zinc and a few other drugs are useful, and belladonna and digitalis may increase the effect of the bromide. Nitroglycerin does not influence the attacks, and opium may be distinctly dangerous.—"Epilepsy and Other Chronic Convulsive Diseases."

Physostigmine in the Treatment of Intestinal Atony.—The action of physostigmin on the intestinal tract has recently been tested by Traversa, an experimenter upon animals. Popular as this drug is in veterinary practice, the medical profession remains indifferent to its attractions. C. VON NOORDEN (*Berl. klin. Woch.*, Oct. 21, 1901) describes the clinical uses of Calabar bean and its alkaloid. In cases of extreme and obstinate tympany complete symptomatic relief followed the administration of $^1/_{100}$-grain doses of physostigmine. The drug was a symptomatic success even in cases of typhoid fever, a disease in which tympany may be exceedingly troublesome. Physostigmine salicylate is so powerful a drug that it is best to begin its use with very small doses. In case of accidental poisoning it is well to remember that the toxic effects of physostigmine are opposed by atropine.

Phantom Tumors of the Abdomen.—Irregular contractions of abdominal muscles or of parts of such muscles are perplexing and may easily be mistaken for abdominal tumors. MAX EINHORN (*Berl. klin. Woch.*, Oct. 28, 1901) points out that phantom tumors may be due also to prolapse of the left lobe of the liver, to exposure of the abdominal aorta, to local hypertrophies of muscular tissue, and to adhesions about the lesser curvature of the stomach. If the left lobe of the liver be prolapsed the pseudotumor is found in the median line close to the ensiform process; just above the resistant mass, in the region normally yielding hepatic dulness, an unusually tympanitic percussion note is obtained. Where the aorta forms the suspected mass, the latter is found deep in the peritoneal cavity, close to the spine; it is cylindrical in shape and pulsates vigorously. Such a tumor is frequently mistaken for an aneurism. A mass of muscular origin is superficial and lies to the left or right of the linea alba. The surface is not spherical, as in the case of prolapsed liver, but rather flat, although laterally a slightly curved surface may be palpated. In general phantom tumors present smooth rather than nodular surfaces. Palpation at various times yields different results; at times nothing can be felt. A marked grade of enteroptosis is a common accompaniment. A history of many years is usually given and helps to exclude malignant growth. Phantom tumors may occur at any age, and are often associated with a poorly-nourished condition of very long standing. Rapid loss of weight does not of necessity indicate a malignant growth, as is shown by the clinical histories which form a part of Dr. Einhorn's article. The rational treatment of phantom tumor, according to this author, consists chiefly of moral suasion and good nourishment.

Diagnosis of Inflammatory Exudates in the Iliac Fossa.—The extreme importance of leucocyte-counts in cases of purulent exudation is emphasized by CURSCHMANN (*Fortschritte d. Med.*, Oct. 22, 1901). Physical diagnosis, even with the aid of aspiration, may yield only negative results in these cases. But if other diseases causing marked hyperleucocytosis, such as pneumonia, can be excluded, then a leucocyte-count of over 20,000 indicates pus with practical certainty. In cases of non-purulent inflammation there may be a hyperleucytosis at the very beginning, but this rapidly disappears and as a rule is not even temporarily present. If a leucocyte-count of over 25,000 be made it probably means pus even in a very early case. Leucocytosis, according to Curschmann, is of greater diagnostic value than the temperature curve.

Surgery of Pulmonary Abscess, Gangrene and Bronchiectasis following Pneumonia.—The prognosis of abscess and gangrene following pneumonia, medically treated, is not very favorable. Many cases of both varieties can be successfully treated by pneumonotomy. D. N. EISENDRATH (*Phila. Med. Jour.*, Nov. 9, 1901) has gathered statistics showing a marked increase in the percentage of recoveries, especially in cases reportd within the last five years, over that of the preceding decade. One of the greatest difficulties is exact localization of the focus. The prognosis for chronic cases is not so favorable. The patients are usually operated on when in an emaciated condition, and the walls of the cavity are often rigid, so that they do not contract well after being drained; the free communication of a bronchus with such cavities is also a barrier. Better results seem to be obtained in these cases when the affected portion of lung is excised.

Typhoid Bacillus in Urine.—During the past twenty years various observers have noted the excretion of the typhoid bacillus in the urine and their collected figures show this condition to be present in about thirty per cent. of all cases examined. These statistics are given by M.

SCHUER (*Deutsch. med. Woch.*, Oct. 31, 1901) and to them he adds his own observations in a series of twenty-two cases, with a percentage of 22.7. His method was to take 5 c.c. of morning urine collected in a sterile vessel, mixed with a 15-per-cent. gelatin solution and spread out over the usual culture plate. After five days' incubation at 22° C. the resultant cultures were subjected to the usual confirmatory tests. He has found that severe cases of typhoid, with an albuminuria present, are more apt to show the bacilli in the urine, although milder cases do not form an exception, and also that, although found before defervescence, they are most frequent and in larger numbers during convalescence, and may be demonstrated for many weeks. It is therefore advisable to disinfect thoroughly all urine of typhoid patients and also the bath-water in which urine is often voided.

Bacteriology of Typhoid Pneumonia.—The presence of typhoid bacilli in the sputum of typhoid patients, who during the course of this disease have developed a pneumonic condition, has been demonstrated during the past few years by a number of observers, and it is now generally conceded that in a fair percentage of cases in which pneumonia complicates typhoid fever the typhoid bacillus is the specific cause of the lung lesion. The possibility that the typhoid bacillus may primarily gain entrance into the lungs and produce a pneumonic condition previous to the general infection of the body has also been admitted, but very few instances of such a sequence have been actually demonstrated. In this connection A. DIEUDONNE (*C'tlblt. f. Bak.*, Oct. 15, 1901) reports an interesting case. The patient was suddenly taken ill with a chill followed by fever. Percussion was negative, but auscultation gave roughened breathing and râles over the lower lobe of the right lung. The expectoration was "rusty." The following day physical signs showed consolidation of the lower right lobe. At this time the spleen was not enlarged. On the eleventh day characteristic rose spots appeared and the Widal reaction was positive. Typhoid bacilli were at this time recovered from the sputum. Later they were obtained in pure culture from the urine. Coincident with the occurrence of the general infection the spleen became enlarged. Recovery followed, the specific bacilli remaining in the sputum for seven weeks after convalescence. From prophylactic standpoints the recognition of this class of cases is of great importance, as hitherto the presence of typhoid bacilli in the sputum of such has not been fully appreciated and they have formed fruitful sources for the dissemination of these organisms.

The Clinical Significance of Atrophy of the Uterus During Lactation.—Atrophy of the uterus during lactation is largely physiological and is known to occur in most but not all nursing women. The degeneration of uterine muscle fibers proceeds more rapidly than the opposing process of regeneration and a normal shrinking of the organ results. L. FRAENKEL (*Arch. f. Gyn.*, B. 62, H. 7) studied 95 cases clinically and found that the atrophic tendency, beginning usually during the third month of lactation, ceases spontaneously when nursing is discontinued or even before. Amenorrhea occurring in a woman who has nursed her child longer than nine months is due more frequently to a new pregnancy than to atrophy of the uterus secondary to lactation. Gynecological symptoms other than amenorrhea occurring during lactation are in most instances associated with a uterus of at least normal size and hence should not be too readily attributed to uterine atrophy. As a rule it is wise not to order lactation discontinued when such symptoms occur between the third and seventh month of lactation, unless the symptoms are very marked indeed. Fraenkel does not consider the existence of a moderate grade of anemia an indication for putting an end to nursing. A good plan is to reexamine the uterus at intervals of four weeks in order to ascertain whether or not a progressive atrophy is taking place. Progressive atrophy being definitely established, lactation should cease at once; on the other hand, if the uterus be found to increase in size lactation may be permitted until the twelfth month. The writer concludes that pathological atrophy of the uterus is for the most part a result of excessive prolongation of lactation, although such atrophy is only found in a very small fraction of cases where nursing is overdone. It is worth while to guard against superlactation, inasmuch as the uterine atrophy resulting therefrom is not easy to overcome; the prognosis remains doubtful even when rational treatment is promptly begun.

Meningitis Due to Tubercle Toxins.—The action of bacterial toxins upon the tissues of the nervous system is of interest in relation to the pathogenesis of the nervous manifestations present in infectious conditions. ARMAND-DELILLE (*Comptes Soc. Biol.*, Oct. 25, 1901) has investigated the action of tubercle toxins upon nervous tissues. He employed the ethereal extract of tubercle bacilli. He inoculated dogs with this substance by lumbar puncture; some in the subarachnoid and others in the epidural space. These animals developed a paralysis beginning on the fifteenth day following inoculation. Upon autopsy those inoculated in the subarachnoid space showed a leptomeningitis, while a pachymeningitis was present in those which had been inoculated epidurally. These lesions extended from the dorsal to the sacral region. This work shows that the inoculation of tubercle toxins into the rachidian meninges is followed by plastic inflammation similar in symptomatology and pathology to that which supervenes in the course of certain cases of tuberculosis in the human subject.

Protargol in the Treatment of Gonorrhea.—As a test of the efficiency of local treatment of gonorrhea by means of protargol, KESJAKOFF (*Wiener klin. Rundschau*, Nov. 3, 1901) has tabulated a series of cases showing the time required for the disappearance of the gonococcus from the urethral discharge. In 12 per cent. of

his cases this occurred after a week; in 18 per cent. of the cases observed two weeks were required; in 30 per cent., three weeks; 20 per cent., four weeks; 14 per cent., five weeks; 6 per cent., six weeks. Kesjakoff's observations agree substantially with those of Meyer and Benario, Straus, Finger, and Ruggles.

Action of Emetine.—The action of emetine on the blood-vessels is of interest in relation to the effect of this drug upon congestive and inflammatory conditions. M. E. Maurel (*Comptes Soc. Biol.,* Oct. 25, 1901) has observed the results produced on the blood-vessels of the intradigital tissues of frogs by the inoculation of the hydrochlorate of emetine. His work shows that this substance is a powerful vasoconstrictor, increasing the normal circulation and reëstablishing a circulation which has become arrested. In the congestive zone surrounding a wound this action overcomes vasodilation and markedly reduces the degree of inflammation. This de-congestive action, so to speak, explains the excellent results which have been obtained clinically by the employment of ipecac in affections accompanied by congestion, notably in the digestive and respiratory systems.

Anterolateral Colpoceliotomy.—The advantages of the operation of anterolateral colpoceliotomy are stated by A. Duhrssen (*Berl. klin. Woch.,* Nov. 4, 1901), who proposed this operation some months ago. Dührssen shows that the division of the broad ligament does not interfere with the nourishment of the uterus, which is amply supplied with blood by the uterine and ovarian arteries of the opposite side. The indications for the division of the broad ligament are stated as follows: (1) The first stage of the operation, *i. e.,* the division of the ligamentum cardinale only, is indicated when a large ovarian abscess or a pyosalpinx is present which offers the prospect of cure through wide opening and drainage; (2) the complete division of the broad ligament is desirable when fixation of the uterus has resulted from chronic parametritis or from extensive adhesions between the adnexa and the pelvic wall. The division of the broad ligament is further recommended for purposes of drainage in cases of infectious purulent peritonitis; to facilitate effective tamponing in cases of hemorrhage from the surface of the uterus, from torn adhesions or from the ligamentum infundibulopelvicum; for the purpose of repair by suture and drainage in cases of rupture of the uterus. Should the uterus and the adnexa prove to be hopelessly diseased, the operator can proceed to total extirpation without loss of time due to the preliminary division of one broad ligament. While partial ligation of the broad ligament has long been practised in the treatment of parametritis, intraperitoneal abscess and diseased adnexa, Dührssen claims to be the first to propose complete division of the ligament in combination with anterolateral colpoceliotomy.

Origin of Polynuclearneutrophilic Leucocytes.—The origin of the polynuclearneutrophilic leucocytes has been the subject of much discussion. Ouskow regards them as derivatives of the lymphocytes, while Ehrlich maintains that they come from the myelocytes and are produced in the red bone-marrow. Dominici (*Comptes Soc. Biol.,* Oct. 25, 1901) holds that in the vast majority of cases they are descendants of the myelocytes, but claims that these are of lymphocyte origin. Thus the polynuclearneutrophilic is the last link in a chain the first link of which is the lymphocyte and the intermediate links myelocytes. The place of origin of the polynuclearneutrophilics is not exclusively the red bone-marrow, but they may also be formed in the lymph-glands and spleen. It would at first appear that this conception is merely a combination of the theories of Ouskow and Ehrlich; such is not, however, the case, as the first observer denies entirely the myelocyte origin while the latter affirms that they never normally come from lymphocytes. It is virtually an amplification of Ouskow's theory. Dominici admits that under certain conditions of abnormal myelogenous tissue a portion of the polynuclearneutrophilics may be formed directly from the lymphocytes without intermediate myelocyte formation.

Hot-Air Douche.—By means of the hot-air douche a marked local hyperemia can be produced on any part of the surface of the body and the cutaneous secretion can be increased; cell-activity is enhanced under the influence of hot-air currents and the output of products of metabolism increased. Assuming that neuralgias are ordinarily due to disturbances of circulation involving imperfect removal of the metabolic products of nerve-cell activity, B. Belzer (*Berl. klin. Woch.,* Nov. 4, 1901) points out the rational therapeutic relation of the hot-air douche to these cases. The author presents a series of clinical records showing the value of the hot-air douche (Frey's method) in cases of neuritis, muscular rheumatism, neuralgia, acute gout, angina pectoris, scleroderma, and chronic articular rheumatism.

Surgical Antisepsis by Potassium Permanganate and Hydrogen Peroxide.—If a solution of potassium permanganate is applied to a wound the tissues and organic substances present give up a portion of the oxygen which enters into their chemical composition and manganese dioxide is formed. This is of a brown color. When hydrogen peroxide is similarly used it gives up a part of its oxygen with an intensity which greatly varies according to the composition of the organic matter present. Auche and Tribondeau (*Comptes Soc. Biol.,* Oct. 25, 1901) advocate for surgical use the combined employment of these agents and claim that by such a more powerful bactericidal action is produced than when either is separately used. The permanganate is first applied and manganese dioxide formed. If now the peroxide is employed a chemical reaction is set up in which the peroxide is reduced as before and in addition the MnO_2 is changed to MnO. Thus a larger amount of nascent oxygen

is set free than when either substance is singly employed. As the bactericidal action of these substances is due to the amount of disengaged nascent oxygen and the intensity of the accompanying chemical process, it is readily seen that their combined employment is more efficient than their isolated use. Experimental observations have fully confirmed the theoretical deductions.

Chronic Non-Gonorrheal Urethritis.—It is customary to describe as chronic gonorrheal urethritis cases which last for years with occasional mild exacerbations, although gonococci may be sought for in vain in the urethral discharge. L. WAELSCH (*Prager med. Woch.*, Oct. 24, 1901) contends that such cases are not properly classified as gonorrheal provided due search for gonococci is made without success. In a case cited by this author more than fifty examinations of the urethral discharge were made, and the few bacilli and diplococci found were in every instance readily differentiated from gonococci. The clinical picture of chronic non-gonorrheal urethritis presents the following characteristics: Long incubation period; absence of an initial acute stage or of very acute exacerbations; mild subjective and objective symptoms; absence of gonococci throughout the disease; bad prognosis for cure. In these cases Waelsch found that he could not effect a cure by any of the modern methods of treatment. Germicides, astringents and local mechanical treatment were as unsatisfactory as were medicines given by mouth.

The True and False Tubercle Bacillus.—Until quite recently it has been thought that the peculiar staining reactions and morphology of the bacillus tuberculosis were sufficient to differentiate it from all other micro-organisms. Although the so-called bacillus of syphilis, smegma bacillus and lepra bacillus possess the same morphology as the tubercle bacillus, the fact that the first is decolorized by sulphuric acid and the second by alcohol, while the third stains readily with the ordinary dyes, renders the differentiation between these organisms and the tubercle bacillus absolute. During the last two or three years it has been discovered that certain bacilli found often on grass, in milk, in butter and in wine present staining reactions and morphology practically identical with those of the bacillus tuberculosis. For this reason it has been thought that the time-honored methods of identifying tubercle bacilli by stain and morphology are about to fall into disrepute and become obsolete. A. MOELLER (*C'tlblt. f. Bak.*, Oct. 25, 1901) has made a comparative study of these so-called pseudo and the genuine tubercle bacilli. He shows that while these pseudo-bacilli possess considerable variation in their morphology, yet the same applies to the tubercle bacillus and does not constitute a differential point of value. When grown upon artificial culture media these pseudo-bacilli multiply abundantly in the presence of other organisms, while the tubercle bacilli are grown only with great difficulty, even in pure culture, under the usual artificial conditions. Furthermore, pseudo-bacilli thrive abundantly at room temperature and the bacillus tuberculosis grows only at the incubator temperature. The pathogenesis of pseudo and genuine bacilli for research animals possesses many similarities. The lesions produced by the former are, however, largely exudative in character with a marked tendency to abscess formation, while the production of proliferative changes is characteristic of the latter. As the pseudo-organisms have been repeatedly found in the throats and mouths of human beings, it is evident that great care must be exercised in differentiating them from genuine tubercle bacilli.

X-Ray as a Depilatory.—The latest method of depilation before the profession is that effected by the X-rays. DAVID WALSH (*Lancet*, Nov. 2, 1901) used this method of removing superfluous hairs after July, 1897, when it was found that "focus-tube dermatitis" resulted in temporary loss of hair from the surface of the skin. Exposure to the X-ray made from ten to fifteen minutes with the tube a few inches from the skin causes the hair to fall out in about ten days. Still this does not destroy the bulb of the hair, and in two or three months the growth has returned. The writer has practised very successfully a combination of the X-ray and electrolysis, which is recommended in preference to electrolysis alone as a permanent cure for this condition. The region of the skin which is to be depilatated is exposed to the X-ray bulb as just described and at the end of ten days the electrolysis needle is placed in the pit made by the removed hair and allowed to remain there for twenty or thirty seconds. This method means that a large number of electrolytic punctures must be made in a small area. Sometimes a second exposure to the focus tube has to be made before the hairs become loosened. The author holds that this combined method shortens the process of depilation, but, like pure electrolysis, it should not be undertaken unless the patient has enough resolution and patience to undergo the requisite treatment.

Relation of Trauma to Tumors and Inflammation.—Just exactly what causal relationship exists between injury and the development of tumors and inflammation has always been a mooted question. B. JORDAN (*Münch. med. Woch.*, Oct. 29, 1901) has investigated the literature very extensively and finds that in not one single case of carcinoma can trauma be considered the real inciting cause, although to a superficial observer the history might prove conclusive. The evidences are somewhat stronger with sarcomata, and it is especially in cases of growths which develop about the extremities and at the site of callus from previous fractures that a previous injury may be held responsible. It is also probable that the various benign tumors, especially the bony one, are occasionally of traumatic origin. In order to have the relationship undoubtedly established the original injury must be observed and accurately localized by a physician; the tumor must correspond exactly to the

site of the injury; the time between the trauma and the appearance of the tumor must agree with the usual time of development of the latter, and, lastly, there must be evidence that tumor-development was not already in progress independent of the injury. Concerning the first statement, it is well known that the patient's own remarks are notoriously untrustworthy. With reference to the third, it is impossible to determine a definite time within which a tumor must develop, since this is apt to vary within very wide limits. As far as tuberculosis and acute osteomyelitis are concerned, there is little doubt that a blow or a fall may so diminish the vitality of the part that germs already circulating in the blood will readily settle there.

Remarks on Infantile Scurvy.—In most of these cases the diagnosis is not hard to make, but where the classical symptoms are wanting or only one is present it may be safe to give some definite answer if asked for a diagnosis, says J. McCAW (*Brit. Med. Jour.*, Nov. 2, 1901). The writer refers to a case which was brought to him; the child had been fed upon condensed milk and patent cereals for ten months. The baby had vomited blood and there was a slight diarrhea in which there was altered blood. There was complete absence of other symptoms. Orange-juice, one dram every two hours; small quantities of whey and cream, at varying intervals, with a teaspoonful of beef-juice every four hours, comprised the treatment. At the end of one week the whole condition was changed and the child soon recovered completely. Fowler's solution was given during the rest of the treatment.

Albuminuria.—Many persons are still fit subjects for life insurance despite the presence of albumin in their urine, according to B. J. STOKVIS (*Klin. therap. Woch.*, Nov. 3, 1901). In order to separate the truly renal from the extra-renal cases, a microscopical examination is essential, yet even the presence of casts does not absolutely prove a true kidney lesion. In this, the more permanent character of the albuminuria, the involvement of other organs and the presence of a number of other symptoms are to be looked for to assure the diagnosis.

Suprarenal Gland in Ophthalmology.—Preparations of the adrenal gland are very valuable in various affections of the eye, according to JOHN H. BOWN (*Brit. Med. Jour.*, Nov. 2, 1901). The writer prefers the suprarenal of the pig, as preparations of this seem to be more staple. It is used in the proportion of twelve grains to the dram. Stronger solutions may be used with impunity. In cases of photophobia with hyperemic eyelids and mucopurulent discharge, complete recovery will take place in four days. In hay asthma an occasional drop in the eye, in combination with a nasal spray of the same drug, the relief surpassed that obtained from cocaine. The eye-strain from hypermetropia is greatly alleviated and the patient may continue the use of his eyes without discomfort. One case of idiopathic hemorrhage into the vitreous, of a recurrent character, occurring in both eyes, was treated with the suprarenal extract and the oozing seemed to stop remarkably sharply.

Tests for Butyric and Acetic Acids in Stomach Contents.—These acids when present to any degree in the stomach contents mean fermentation, and hence their detection is of great importance. The tests for these acids have previously been very complicated and impracticable. M. I. KNAPP (*Med. Rec.*, Nov. 16, 1901) describes a very simple method of detecting these acids. One c.c. of the filtered stomach contents is extracted with about five c.c. of ether by shaking and allowing to stand for a few minutes. One drop of a ten-per-cent. solution of perchloride of iron is added to two c.c. of water. This gives it a faint yellowish tinge. A part of the extract is then floated on the top of the iron solution. If lactic acid is present a sulphur yellow ring appears; if butyric acid, an orange color, and if acetic acid is present a rusty-colored line appears between the two fluids.

Diseases of Uterine Appendages.—These are usually due to extension of morbid conditions elsewhere, writes A. P. CLARKE (*Amer. Jour. of Obstetrics*, Nov., 1901), and can often be cured without radical operation. A catarrhal or gonorrheal endometritis may set up a salpingitis or ovaritis, and all these affections may often be cured by dilatation and curettement of the uterus followed by local treatment. Applications of ichthyol-glycerin, repeated hot douches, soothing suppositories, counterirritants, may all be of use. Circumscribed hyperemia or hematoma may take place in the ovary from sudden suppression of the menstrual flow, and scarcely requires any treatment except rest and the avoidance of excitement. Oophoritis generally is connected with the puerperal state; it may result from laceration or septic infection of the cervix, or from large abscesses of the vaginal wall or the pelvic connective tissue. Affections of the cecum, appendix, rectum and anus appear as causative factors often enough to demand careful examination of these parts. Diarrhea and dysentery have been accompanied by much ovarian pain at menstruation, which disappeared with the intestinal trouble. Ovaritis is also caused by malposition of the uterus. Tumors of the uterine body, sometimes, are the cause of much hyperemia and flooding at the menstrual period. The ovary may be contused in labor by partial prolapse into the pelvis. Tubo-ovarian cysts, ovarian hydrocele, hydrosalpinx and pyosalpinx are common enough. Gonorrheal or purulent salpingitis is accompanied by adhesions to the surrounding parts, or contraction or closure of the lumen of the tube. This may cause dysmenorrhea and sterility; nevertheless, many cases of salpingitis terminate favorably without operation.

Pathology and Treatment of Migraine.—The lives of many people are so seriously marred by frequent recurrences of severe headaches that successful treatment of this most annoying condition becomes of vital importance to the physi-

cian. The individual attack is usually comparatively short and self-limited, so that various drugs may relieve the distress, but to be able to so change the constitution and habits of the patient that attacks of migraine cease to occur is, indeed, seldom realized. W. H. THOMPSON (*Med. Rec.*, Nov. 16, 1901) believes that too little attention is usually paid to these unfortunate patients, whose lives are often most miserable. Migraine can not be classed among the degenerative nervous diseases, for it is chiefly a malady of youth and of the prime of life, decreasing in old age. There are whole classes of people who seldom if ever are afflicted with it, and these include nearly all those whose occupation calls for physical work in the open air. Clergymen, students, shopgirls, professional men and housewives are especially prone to the disease. The secretion of bile is considered by the author as an important factor in the determination of migraine, and a sedentary life, with an inactive diaphragm, abdominal muscles and a sluggish circulation, certainly tends to obstruct the normal flow of this secretion. Imperfect digestion and chronic constipation naturally result. Many of these products of imperfect digestion are nerve poisons, and it is one of the important liver functions to destroy these gastro-intestinal nerve poisons. Measures must be devised in each case to cause as fully as possible, in accordance with modern civilization, habitual activity of the portal system. All severe cases are chronic dyspeptics with chronic constipation. Five grains of blue pill with a saline in the morning is a weekly prescription to be kept up for months. One to two drams of sodium sulphate with ten grains of sodium salicylate are to be taken in hot water every morning. Before each meal, a pill is prescribed of one-twentieth of a grain of bichromate of potash with three grains of bismuth subcarbonate. After meals intestinal antiseptics, such as naphthol, bismuth or ammonium benzoate, may be given. A good prescription is:

℞ Sod. sulpho. carbol. .gm. 0.30 (gr. v)
Kal. permangan ..... 0.06 (gr. i)
Beta naphthol ..... 0.06 (gr. i)

To be taken after meals and at night. For severe attacks of migraine the fluid extract of ergot in dram-doses, with elix. cinchona in water by stomach or rectum, is perhaps the most certain agent. The patient should lie perfectly still until all pain ceases and the dose may be repeated in an hour or two. Ten grains of lactophenin and two grains of caffeine citrate are also a valuable combination.

Malpositions of the Uterus in Unmarried Women.—A malplaced uterus may sooner or later, writes H. E. HAYD (*Amer. Jour. of Obstetrics*, Nov., 1901), offer an obstruction to the menstrual flow, either on account of the flexion which exists or the congestion, and associated thickening of the lining membrane. Besides dysmenorrhea, such obstruction may be accompanied by severe backache and bearing-down pains, pains in the groins, and reflexes, such as nervous dyspepsia, irritable bladder, hysterical aphonia, fits, clutching at the throat, irritable heart, pain in head or neck, and various visual defects. A rectal examination is often quite sufficient for diagnosis, and young girls should not be permitted to suffer on the score of modesty. A pessary can do very little good in these cases and its introduction is painful. Tampons, electricity or other non-operative measures afford only temporary relief. The author's treatment is to perform dilatation and curettage and the Alexander operation, which does not interfere with subsequent pregnancy.

THERAPEUTIC HINTS.

Acute Alcoholism.—A formula recommended by J. M. Anders is:

℞ Sodii bromidi .....gm. 30.0 (℥i)
Tinct. capsici ..... 4.00 (℥i)
Tinct. digitalis ..... 2.0 (℥ss)
Elix. simplicis ad..... 60.0 (℥ij)

M. Sig.: A teaspoonful every two or three hours in water.

Thrombosis of the Femoral Vein in Typhoid Fever.—This is best treated by elevating the part and keeping it at perfect rest. The following ointment may be applied along the course of the vessel three times daily:

℞ Ung. ichthyol,
Adeps lanæ hydros. aa.. 8.0 (℥ij)
Ung. belladonnæ .....16.0 (℥ss)

After the swelling has subsided an elastic stocking should be worn for a couple of months.—J. M. ANDERS in "Practice of Medicine."

Retroversion of the Womb.—A retroverted womb uncomplicated by disease is treated by M. ROSENWASSER (*Amer. Jour. of Obstetrics*, Nov., 1901) by replacement and the support of a pessary. If complicated by diseased womb or impaired pelvic floor, the pessary should be preceded by a plastic operation. If complicated by aggravated prolapse simultaneous plastic and suspension operations should be done. If the womb is fixed, treat for pelvic inflammation. A suspension operation, in ordinary conditions, should be resorted to only when mechanical support and the plastic operation have failed.

Uterine Fibromyomata.—In the treatment of metrorrhagia accompanying fibroids, H. D. INGRAHAM (*Amer. Jour. of Obstetrics*, Nov., 1901) has tried thyroid extract and desiccated mammary gland without much benefit. Ergot and hydrastis he finds of use and stypticin the best drug of all. The curette may be successful, but is a dangerous remedy. Electricity is safe, but has little value. When pregnancy occurs, with a large, rapidly-growing fibroid situated below the fetus in the pelvis, and nearly filling that cavity, there is nothing to be done but hysterectomy.

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SATURDAY, NOVEMBER 30, 1901.

NEW YORK MEDICAL RECONCILIATION.

AT the regular monthly meeting of the Medical Society of the County of New York, held last Monday evening, a movement looking to the reconciliation of the two medical organizations in New York State and County which at present claim the divided allegiance of New York physicians was happily initiated.

Dr. St. John Roosa proposed and the County Society unanimously adopted at the suggestion of the incoming President of the Society, Dr. Van Fleet, a resolution to the following effect: That a Committee of Five be appointed by the President of the Medical Society of the County of New York to meet and confer with a similar committee to be appointed by the New York County Medical Association in order to arrange the details of harmonious affiliation of the two organizations in County and State.

This resolution, let us hope, will prove the initial step in the reconciliation of elements that have always been a unit in their purposes of benefit for the medical profession, who have been coming ever closer together in recent years, as regards the best methods of accomplishing their common purpose and have been kept apart only by traditional differences with very little basis of real divergence of opinion.

Since the President of the American Medical Association declared last year that the question of the Code was not a vital element in the binding principles of that Association, there has been no good reason for the existence of two separate medical organizations in New York. It was on the question of the Code that the New York Medical Society was cut off from the American Medical Association. Now, that the National Association has come around to New York's way of thinking, it is preposterous further to exclude men who were ahead of their time, but were pioneers for the right.

A united medical profession in this country can accomplish great things. The fact that the profession of the powerful Empire State has been divided against itself has detracted much from all efforts at National legislation. A favorable opportunity seems to be presented now for the repair of the breach in the ranks that has weakened all such efforts. No sacrifice should be spared on either side to succeed in the beneficent purpose. Certainly the New York State Medical Association should be willing to do anything and everything for the reconciliation with the elder sister organization that will after nearly a score of years enable a united medical profession in New York to wield all the influence it should have. It would be easy at the present time to delay for a good while, perhaps, the benefits sure to accrue from reunion. It is to be hoped that no mere technical quibbles or political motives will be allowed to interfere with the good purposes proposed. The medical profession, not of New York State alone, but of the whole country, will watch jealously the proceedings in this matter. They will resent any unworthy or pusillanimous excuses that may be supposed to serve as pretexts to hinder reconciliation. A better time than the opening year of the new century could not be found for so hopeful a movement. May the year not die before we shall be able to state that the preliminaries of reconciliation are arranged, and that the assurance of professional union and strength is at hand.

HONOR TO DR. T. GAILLARD THOMAS.

"No company can be more amiable than that of men of sense, who are doctors," and doubtless a more amiable and more brilliant company of men could not be found than those that dined at Sherry's last week in honor of Dr. Thomas'

seventieth birthday. The three birthday dinners held recently, Dr. Jacobi's Festschrift, the Virchow celebration and this feast of love and reason, indicate the tendency among scientific men to pay tribute to those whom they esteem, by the expression of their good-will and admiration.

Dr. Thomas himself put it succinctly in his remark that the reward for which he had been working for fifty years was the esteem and approbation of his brothers in the profession. Only a physician can realize how single of purpose and high of mind another physician must be to win this universal approbation unmixed with envy or jealousy; and there is doubtless no keener sense of gratification to a man who has been true to his ideals in serving humanity than to feel that his brother practitioners, who know that he was tempted in all points like as they were, hold him honorable and unselfish, as well as a master in their art.

The tangible but impersonal honor of bronze and marble to link one's form and feature with one's name is inspiring to posterity; but, we feel, not so inspiring nor gratifying to the great man himself as is this growing custom of crowning him when ripe in years with garlands of friendship.

PROPHYLAXIS OF VENEREAL DISEASE IN NEW YORK CITY.

The special Committee of Seven, selected earlier in the present year by the Medical Society of the County of New York to prepare a report on the subject of the prophylaxis of venereal disease in this city, presented the result of their labors at the meeting on November 25th. The report, of which a very complete summary will appear in the next issue of the Medical News, is a model of painstaking effort, of judicious discussions, of suggestive collation of ideas from many sources, and of very practical purposefulness. It reflects great credit on the Committee which have had the matter in charge and especially on the Chairman and Secretary on whom most of the work devolved. The report comes very opportunely, now that the recent change in the political complexion of the city administration makes it possible that medical suggestions on this important subject will be looked to with more care than otherwise would be the case.

With regard to the question of decreasing the dissemination of venereal diseases by direct legal regulation of prostitution the Committee agree that it is out of the question. Not only is the temper of our people very much opposed to what they would inevitably consider compounding vice, but also legal regulation has in the countries where it has been tried proved almost universally a failure. It is much more probable that the laws regulating prostitution will be repealed in the countries where they now exist than that any other countries shall join the movement which many former advocates now admit to be doomed to fail.

With regard to segregation of prostitutes in one part of the city as a means of checking the evil it engenders, moral and physical, the Committee are of opinion that this, too, cannot be accomplished under present conditions. It can scarcely be done without some approach to legal toleration of the evil. This will inevitably seem to be a quasi authorization and will meet with decided opposition from a large class of our people. With regard to domiciliary segregation, however, this question is different. Moral and immoral tenants must not be allowed to occupy the same premises. Above all, families with children must be protected from contact with and contamination by immoral neighbors. For this no special legislation is required. The enforcement in moderation of existing laws will accomplish the purpose very fully. The Tenement House Commission is at present doing excellent work with regard to the most serious features of domiciliary contamination and their efforts must be encouraged. The Committee are agreed that all external signs of the presence of evil must be rigorously suppressed. All red lights, street or window solicitation, indecent exposure, etc., must be completely suppressed.

With regard to the enaction of a penalty for the transmission of syphilis, while admitting the difficulties in the way of enforcement of the law, the Committee feel that the presence of such a law on the statute books would be of great educative value, as well as occasionally enabling justice to be meted out to a criminal. As it is mainly the younger prostitutes who convey syphilis, the enactment of a law raising the age of consent is suggested. Procurers not only do a great moral evil, but also a great physical wrong since their victims are destined, not only to become affected themselves with venereal disease, but to become foci of infection for others. The laws in this matter must be enforced to the utmost and the public conscience aroused by every possible means to encourage the detection and the unmitigated punishment of these criminals.

The Board of Health as at present constituted has not only the right, but the duty, to control contagious diseases. There is no good reason why their efforts should be limited to the less widespread and less dangerous diseases of this class. Venereal diseases are eminently contagious and are calculated more than any others to undermine the health of the community and especially of its most valuable members, young adults. The Board of Health must be aroused to a sense of its responsibility in this matter and all possible measures for the protection of health must be enforced. This seems the most natural way to get at the gradual suppression of the evil. Patience will be needed for the accomplishment of lasting good.

Meantime there remains the educative influence that the medical profession can exert upon the community. The declarations with regard to the dangers of venereal disease and the difficulty of its cure must be very straightforward. Young men must be plainly told that sexual continence is consonant with health and sexual indulgence absolutely unnecessary. The necessity for prompt treatment must be insisted on and public opinion must be brought to understand that every dispensary and hospital receiving public aid should provide treatment for venereal diseases. On the other hand, the impression that venereal diseases are easy of cure must be removed. All advertisements of secret sure remedies, of special infallible prescriptions and of venereal quacks, who never fail to cure, should be absolutely forbidden, not only in the public prints, but also in the form of posters in public places.

As can be seen from this brief review nothing of importance has been omitted in the Committee's report. It contains no startling suggestions and no radical opinions. It is very happily temperate and judicious. The report can scarcely fail to do great good by calling public attention to conservative medical opinion on the various phases of this important question. We hope that it will be given due publicity and foresee a partial accomplishment of its highest purpose in its own thoroughly deserving educative influence.

IT IS noteworthy that in States where interference with scientific experiments is prohibited to societies for prevention of cruelity to animals, much less commercial cruelty to animals is permitted than in States where "humane" societies levy on the people for antivivisection propaganda. Chicago, for example, in its brutal treatment of horses and of cattle at the stock-yards, presents a disagreeable contrast with New York, whose Bergh Society is forbidden to interfere with scientific experiment by its charter. Despite the money annually wasted on the "humane" society, private effort must battle against overloading and brutality toward horses. The leaders in the Chicago "humane" society devote their efforts chiefly to battling against vivisection, which has simply humanity and science in view, since warfare on commercial cruelty means loss of revenue and social status.

ECHOES AND NEWS.

NEW YORK.

New Health Institute.—The Health League of New York City was incorporated at Albany, November 21st, with a capital of $150,000, to establish schools and hospitals for the treatment of the sick through the "nature cure," as opposed to treatment by drugs and medicines, and to manufacture prepared foodstuffs, clothing and apparatus.

Woman's Hospital.—The Woman's Hospital in the State of New York, celebrated at its annual meeting, held recently, its forty-sixth anniversary. This hospital, the first of its kind, was founded for the treatment of gynecological diseases exclusively, and in its peculiar field has won much success, largely due to the disinterested services of the attending physicians and surgeons. For some years the Board of Trustees have been anxious to build a more modern hospital, and subscriptions to the amount of $370,000, $32.000 of which has been received during the past year, are now in the hands of the treasurer. At least half a million dollars will be required for the new building; but it is probable that the funds now in hand will be considered sufficient to warrant commencing the building the coming year.

Appointment of Dr. Jelliffe.—Commissioner Keller has ordered the appointment of Dr. Smith Ely Jelliffe as Visiting Neurologist to the City Hospital, the position made vacant by the resignation of Dr. Frederick Peterson when he was appointed Commissioner in Lunacy.

PHILADELPHIA.

Smallpox Situation in Philadelphia and Camden.—The smallpox outbreak in Philadelphia seems to show the effect of the wholesale vaccination employed, over 800,000 residents having been vaccinated during the summer and fall. Last week's report is 46 new cases and 7 deaths. There are now 213 cases in the city. The total number since the first of the year is 655 cases and 97 deaths. In Camden there is a slight increase in the number of cases. The Board of Health investigation to determine the cause of

tetanus in the cases reported last week has not as yet developed anything pointing to vaccination as the cause. In one family two brothers were vaccinated from the same tube of virus. One is very ill from tetanus, the other has shown no signs of that disease. In Burlington ten horses are being inoculated with virus as a test of its purity.

New Fellowship in Pepper Laboratory.—Dr. George Woodward has donated to the University of Pennsylvania $20,000 to endow the "Woodward Fellowship in Physiological Chemistry" in the Pepper clinical laboratory. The work of the incumbent will consist entirely of chemical investigations of disease.

Gift to Jewish Hospital.—Meyer Guggenheim of New York has made a gift of $60,000 to the Jewish Hospital Association for the erection of a building for the treatment of private patients. The income from the building is to be devoted solely to the charitable purposes of the Jewish Hospital.

Obituary.—Dr. Philo H. Banks of Mifflintown, Conn., died in New Orleans, November 23d, of typhoid fever. Dr. Banks, whose family is prominent in Juniata County, was a recent graduate of Jefferson Medical College. He had been in the employ of the British Government Transport Service between New Orleans and South Africa and contracted the disease on his last voyage.

Lupus Treated by the X-ray.—At a recent clinic at the Jefferson Hospital Dr. J. Chalmers Da Costa exhibited a patient with a patch of lupus at the base of the nose. The diseased area had been exposed sixteen times, twice a week, to the action of the X-ray, the remainder of the face being protected by a leaden mask. This treatment resulted in an apparent cure, but in a short time after the exposures were discontinued the ulcerative process again began. The treatment is now to be repeated.

New Laboratory Opened.—The Philadelphia Clinical Laboratory has been incorporated under the direct control of women chemists. Milk, gastric contents, urine, etc., will be analyzed and examinations made of tissue, blood, sputum, etc. Mary Pennington, Ph.D., Director of the Chemical Laboratory in the Woman's Medical College, is president of the newly-incorporated institution.

Sixty-five Physicians in One Block.—The statement is made that within the radius of four blocks in the central part of this city is located more than one-seventh of its medical population. In one block alone, Chestnut street, between Eighteenth and Nineteenth, there are sixty-five physicians. This surfeit is explained partly by the fact that the area mentioned is almost the center of the city. Another factor is that it is the location of many of the most prominent practitioners and younger physicians have of late years been attracted thither.

CHICAGO.

Contagious Disease Hospital.—Plans are on foot for a hospital where contagious and infectious diseases will be exclusively treated. For the purpose of giving information and collecting funds, an office has been opened. A charter has already been obtained.

Antitoxin in Diphtheria.—It is said that an increase of fully one-third in the number of deaths from diphtheria in proportion to the number of cases reported has been noted during the past two weeks. The medical inspectors of the Department of Health report a distrust of the use of antitoxin, both by physicians and parents, which fully accounts for this result. Such distrust is, in the judgment of Commissioner Reynolds, wholly unwarrantable. He says: "Probably never before in the history of antitoxin has this specific for diphtheria been so safe to use. The deplorable results in a neighboring city furnish no criterion of the method of antitoxin production in general, and the fact that more than 140,000 injections of the remedy distributed by this Department during the past six years without a single such result should reassure those who have been needlessly alarmed."

Norwegian Lutheran Hospital.—Contracts have been let for the construction of a hospital for the Norwegian Lutheran Deaconess Society, which is to comprise several buildings from one to three stories in height, at a cost of $40,000.

Report of Mercy Hospital.—Improvements in the equipment and additions to Mercy Hospital are described in the annual report just issued. A new amphitheater, buildings for the nurses and a thoroughly-equipped laundry were built during the year. The Hospital was successful in its mission of caring for the sick, and the Sisters of Mercy who manage the institution are satisfied with the condition of its affairs. The financial report shows that $104,395.15 was received during the year. Cash on hand, October 1st, amounted to $1,123.42. The indebtedness of the hospital is $134,609.53. Nearly all of the regular income of the hospital is required to defray the ordinary expenses, and with their report the Sisters of Mercy issue a call to the benevolent.

Opposition to St. Luke's Society.—Erskine M. Phelps, C. D. Peacock, Murray Nelson, and Dr. E. C. Dudley have joined in a petition to the Health Department against the issuance of a hospital license to this society. The petition declares that the society conducts a hospital for the treatment of patients suffering from the liquor and morphine habits. It states also: "That the method of conducting and operating this hospital from the nature of the ailments treated therein has been and must of necessity be a nuisance in law; that patients suffering from alcoholism are daily carried up the front steps of the hospital by the attendants, many of such patients being intoxicated to the point of helplessness, while others are suffering from delirium

tremens, and after being overpowered by the attendants, are carried screaming, cursing, and struggling up the stairs into the hospital; that frequently patients suffering from delirium tremens have run screaming about the neighborhood." The hospital is not the same as St. Luke's Hospital.

Morphine and Allied Drug Habits.—Dr. David Paulson, at a meeting of the Chicago Medical Society, held November 20th, said that the alarming increase in recent years in the number of neurotic individuals is producing a proportionate increased demand for sedative drugs. The very fact that almost every issue of popular magazines contains nearly a dozen alluring advertisements of various remedies or institutions purporting to cure these drug habits is a strong indication that there are plenty of victims to patronize them. In order to cure permanently a victim of one of the drug habits, either the patient must be built up into such a state of health that he will have no occasion in the future to depend upon the drug, or else he must develop a fortitude to bear suffering. Unless one or the other of these conditions is established in the cure, the time spent in most instances is simply thrown away. Some idea can be had of the author's treatment by narrating one of the several cases reported by him. Physician; male; smoked ten cigars daily; used alcoholic stimulants moderately; used four grains of morphine daily; had been using morphine occasionally for many years, but constantly during the last four or five years; also used several grains of cocaine, definite quantity not known. He was cut down to one-half grain of morphine the day after consulting the doctor. Treatment first day: Warm electric baths; fomentations to the spine; massage; rested quietly seven hours; slept two hours. Second day: Fomentations to the spine, stomach and liver; warm electric baths; massage; very nervous and sick; severe attacks of vomiting; injected $^1/_{150}$ grain of atropine; slept between two and three hours. Third day: Warm electric baths; massage; fomentations to the spine, stomach, abdomen and head; warm enemata; slight vomiting attack; rested and slept between five and seven hours. Fourth day: Warm electric baths; Swedish shampoo; massage; dry hand rub; warm enemata; restless; slept between two and four hours. Fifth day: Warm electric baths; felt better; slept between five and seven hours. Sixth day: Warm electric baths; massage; fomentations to the spine; read newspapers; walked about the room; rested several hours; slept a few hours. Seventh day: Hot electric baths; wet sheet pack; cool sponge; rode in street-car; strength good; mind clear; slept between five and seven hours. Eighth day: Similar treatment as before; wakeful and restless; slept but a few hours. Ninth day: Spent most of the day outdoors; took two doses of sulphonal on his own responsibility; slept from five to seven hours; spray in the morning after rising; felt quite well. Tenth day: Sedative treatment in bathroom; dismissed his night nurse; took sulphonal, but did not sleep. Eleventh day: Took sedative treatment in the bathroom; ate a few apples; and slept one hour and a half. Twelfth day: Tonic treatment; slept six hours. Thirteenth day: Same treatment; slept seven hours. Fourteenth day: Same treatment, and slept from four to six hours; gained strength. Fifteenth to the twenty-fifth day: Gained ten pounds; then went away feeling well pleased. One year later, a private letter from patient stated that he was well, happy, and attending to a large practice.

Infectious Origin of Purpura Hemorrhagica.—Dr. A. W. Schram reported the case of a patient, F. W., a barber, twenty-one years old, with previous negative personal and family history, who was suddenly taken sick with general malaise. On the fourth day of illness hemorrhagic spots appeared on the limbs, and in the course of two weeks the patient's body was almost entirely covered with purpuric spots. There was bleeding from the gums, but no bleeding from nose, and no blood in the urine or feces. In the third week of sickness, the entire left side of face became paralyzed, involving the oculo-facial group, but no paralysis of tongue or palate. The chest was negative. Liver and spleen enlarged. Temperature 102° to 105° F. Pulse 120 to 150. Axillary, cervical and inguinal glands enlarged. Blood: Red cells varied from 2,280,000 per c.mm. to 1,370,000. White cells varied from 16,000 per c.mm. to 4,000. Hemoglobin, 22 per cent. to 12 per cent. Differential count of white corpuscles gave 90 per cent. small mononuclears or lymphocytes. Cultures from blood thirty-six hours antemortem gave pure growths of staphylococcus aureus on all media inoculated.

Pathology of Purpura Hemorrhagica.—Dr. W. H. Rubovits said in this case the hemorrhages and hemorrhagic infarcts in unaccountable numbers were revealed at the autopsy in the liver, spleen, pancreas, kidneys, suprarenal bodies, lungs, heart and pericardium, pleura, peritoneum, synovial membranes, muscles, adipose tissue and skin. A few petechiæ were found in the meninges of the brain. The brain, intestinal and vesical mucous membranes were entirely free from hemorrhages. If sections are made through tissue in which no macroscopical hemorrhage has taken place, the cause of the bleeding may be ascertained. Minute blood-vessels were found in the spleen in which a distinct rupture had occurred, apparently just before death, because only a small amount of blood had escaped, and therefore the details in the tissue changes were unobscured. Another factor to be considered in relation to the hemorrhages in purpura is the formation of very large numbers of minute thrombi and emboli. The alterations in the blood and the circulation in the blood of large numbers of micro-organisms, together with the constant degenerations of the blood-vessels which obtain in this disease, conduce to the formation of these circulatory changes. The search for the

pathological changes in the vessel walls revealed the presence of micro-organisms in the circulation. By employing the special methods for staining bacteria in tissues, the cocci were also found in the parenchyma, but in very small numbers in contrast to the large numbers found in the blood-vessels. Notwithstanding the presence of the cocci, the parenchyma of the liver, spleen and pancreas was practically unaltered, and that of the kidneys and lungs showed only slight changes, a diffuse nephritis and bronchopneumonia. Marked hyperplasia of the agminated and solitary follicles of the intestines, with slight alteration, was present. This is the common finding in purpura hemorrhagica, due to the accompanying gastro-enteritis, which is commonly present and usually marks the onset of the disease, as in this case. The changes which were found in the liver have been found in other cases of purpura. It is the only finding which differs essentially from an ordinary septicemia. Letzerich says that just as we first feel for an enlarged spleen in malaria, so should we first look for an enlarged liver in purpura. The postmortem record of this case states that the liver was of a pale-brown color, firm in consistency, moderately increased in size, and that on section the markings were very distinct. The hemorrhages were very numerous. Microscopically, the interlobular connective tissue was found to be greatly increased in amount, and to contain many leucocytes and large numbers of the minute thrombi which have been referred to. The parenchyma was in a healthy condition. The changes correspond to an interstitial hepatitis.

GENERAL.

Medical Society of City Hospital Alumni (St. Louis).—This Society met Thursday, November 21st. Dr. W. C. Mardorf read a report of an Unusual Case of Oïdium Albicans, and Dr. L. Bremer read a paper on Artefacts of Blood Examinations.

St. Louis Medical Society of Missouri.—Two Cases of Tetanus from Diphtheria Antitoxin; Recovery; Presentation of Cases, was the title of a paper by Dr. T. A. Martin, read before this society November 23d.

Smallpox in Kentucky.—Smallpox has been costly in lives and money to Kentucky. All except nine of the 119 counties in the State—those nine being remote from the main lines of travel—have had more or less experience with smallpox during the present epidemic, covering a period of nearly four years. A total of 394 distinct outbreaks is reported, eighty-five of these being fresh importations from other States. In all 11,269 cases are reported, with 184 deaths, a mortality of 1.63 per cent. Special hospitals were erected in sixty-three counties and municipalities, but probably a majority of cases outside of the large cities and towns were isolated and treated in their homes. Much of the expense might have been avoided and many of the lives lost might have been saved had heed been given to the warnings urging vaccination.

St. Bartholomew's, London.—The students at St. Bartholomew's Hospital, London, will in future receive clinical instruction in insanity at St. Luke's Hospital. Hitherto they have had to go considerable distance to one of the County Asylums, involving an appreciable loss of time in transit and some inconvenience.

Virchow Institute in Russia.—The Russian Government has decided to establish a Virchow Institute in Moscow.

Anniversary of Leopold.—The one hundred and fiftieth anniversary of the founding of the Imperial Leopold Caroline Academy of Sciences, the oldest scientific society in Germany, will be celebrated at Halle on January 1st, 1902.

Medical Mayors in England.—That medical men make most efficient public officers is proven by the number of physicians serving as Mayors of various towns throughout Great Britain; one of them, Dr. J. M. Hughes, of Ruthin, having recently been re-elected for the sixth time, and several others are serving extended terms.

Æsculapian Medicine.—At the recent Pan-Hellenic Medical Congress, held at Athens, Mr. P. K. Avadias, Inspector-General of Antiquities in Greece, stated that, contrary to tradition and general belief, the temples of Æsculapius at Epidarrus, Crete and Rome, were not originally schools of medicine, nor hospitals, nor were the priests in any sense of the word physicians. The practice of medicine had its origin in folk-lore, and was at all times independent of religion. The first physicians were called Asclepiadæ; but the term is not believed to indicate any connection with, or succession to, Æsculapius. Eventually, however, the temples of Æsculapius became the resort of the sick and diseased, who were ministered to by the priests, under the belief that the cases which were treated according to the then established rules of medical practice were under the direct care of the god Æsculapius; and the patients were therefore expected to submit with religious faithfulness. What we now recognize as suggestion played an important part in the treatment; and detailed histories of the cases so managed would make interesting reading at the present day.

St. Mary's Hospital.—The new hospital of St. Mary's, Islington, London, has begun active service with over 600 beds occupied. This infirmary is situated in the center of a thickly-populated district, the inhabitants of which are none too rich in this world's goods. It is to be regretted that the great mass of clinical material thus aggregated is not available for teaching purposes.

Progress of Plague.—Eighty-five cases of bubonic plague with fifty deaths were reported from the island of Mauritius during the week ending November 7th. The epidemic in Egypt is about stamped out; but it is still perniciously active in India. Glasgow is now considered free

from the plague; and no fresh cases were reported in Liverpool during the week ending November 9th. A curious case occurred in this latter city. A boy was admitted to the hospital suffering from enlarged glands in the groin, supposed to be due to an injury received at football. The fluid from the glands was examined and found to contain plague bacilli. The source of infection could not be traced; nor was it found that the boy had spread the infection in any way.

Epidemic of Scarlet Fever in England.—Scarlet fever was found to be epidemic in several districts, some widely separated, in London. Inquiry elicited the fact that the milk supply of the affected districts was derived from two local vendors, and through these latter the source of infection was traced to a case of scarlet fever in the family of a Staffordshire farmer. The output of milk from this farm was stopped, with the result that the number of cases of scarlet fever in the London districts promptly decreased.

Italian Hospitals.—One fact which is painfuly apparent to Americans traveling in Italy is that, while Italian medical men are well advanced as scientists they have not made their influence felt to any appreciable degree in the matter of hospitals or general sanitation. The average Italian hospital is, from an American point of view, incredibly neglected and mismanaged, while the best of them are open to severe criticism. As to the care of the sick in their homes, it is, with occasional exceptions among the upper classes, clearly medieval, even to the point of touching one's sense of humor when one sees modern science abruptly challenged and called to a halt by some queer survival of superstition and prejudice. It is equally evident that little progress can be made in these directions without the coöperation of women and of a properly organized body of trained nurses. Private patients, as well as public hospitals and asylums, have been, in the past, left as a matter of course, and indeed of necessity, in the hands of the various nursing sisterhoods of the Roman Catholic Church, and these, while they deserve full credit for unselfish devotion to their self-imposed duties, are, it must be admitted, if measured by modern standards, altogether unequal to the demand upon them. The few foreign nurses who have established themselves in the large cities find employment almost exclusively among their own country-people, and have little or no influence beyond the sickrooms of their patients. But in Naples, Miss Turton, an English woman, and Miss Baxter, a graduate of the Johns Hopkins Training School, have obtained a provisional footing and are, in the hospital wards which have been put under their care, initiating an experiment which already promises a fair measure of success. Miss Baxter is training Italian women for nurses, and, although she is handicapped in many ways, as can easily be understood without going into details, reports favorably upon their fitness for the work. Miss Turton, going from Naples to Florence, has opened a "Casa di Cūra," No. 48 Via Bolognese, for private cases, and there has her own training school, organized, as she herself says, "on English and American lines." This little hospital is well fitted up, delightfully situated, and provides all that is necessary for acute illnesses and operations, while travelers needing rest or special treatment can find those desiderata supplemented by most attractive surroundings.

Industrial Sanatorium in Colorado.—The Rocky Mountain Industrial Sanitarium, organized by Denver professional and business men last spring, is now in operation. On a ten-acre tract, five miles from Denver, fifteen or twenty patients in the early stage of consumption are virtually taking care of themselves. The rules of the institution compel a continuous outdoor life to be maintained summer and winter. Each patient is provided with a roomy tent, plenty of warm clothing and blankets, and a small stove to be used only in extremely cold weather. Experience has proved that with proper food and clothing, and a life in the open air and sunshine, artificial heat is unnecessary, and becomes absolutely unbearable to the patients, who without exception are gaining rapidly. The hope of the physicians and others interested in the enterprise is to form a colony of all consumptives who come to Denver, and thus take them off the streets of the city, and out of the hotels and boarding-houses, where they could never recover, and where they are a constant menace to the public health. While no one is allowed to profit, the institute must be self-supporting. The coöperative idea has already been put into force, for many of the patients are supporting themselves wholly or in part by doing the work on the premises. Margaret S. Dunne, who received high commendation for her work in army hospitals during the Spanish War, is the superintendent.

New Jersey State Hospital.—The new building of the New Jersey State Hospital was formally opened on the 21st inst. by Governor Voorhees. Governor-elect Murphy made an address.

Health of Cuba.—The report of Dr. W. C. Gorgas, U. S. A., Chief Sanitary Officer of Havana, says that the most prominent feature of the statistics for October is the fact that there have been no deaths from yellow fever in Havana, and not a single new case. It will be seen in the body of the report that three cases are reported, but these three cases were taken sick in September and carried forward into October. It will be seen that October, on the average, in the past ten years, has been one of the severest months for yellow fever. The maximum number of deaths from yellow fever since 1889, for this month, occurred in 1896, when there were 240 deaths; the minimum, in 1899, when there were 25 deaths; the average, 66.27 deaths; this year, no deaths and no cases. Last year, 1900, there were for October 308 cases and 74 deaths. This result adds another month as a practical demonstration of the truth of the mosquito-theory of the transmission of yellow fever. The results attained are

evidently due to disinfection on the lines commenced in February, as directed by the Military Governor with a view to killing infected mosquitoes. It has only occurred a few times since yellow fever became endemic in Havana, some century and a half ago, that an October day (and certainly never two successive days) has passed without a death from yellow fever. This year the whole of October was passed without a case or a death. This cannot be chance and cannot be entirely due to the general sanitary improvement. It might be considered a matter of accident, if the yellow fever record for October were simply slightly lower than the minimum for past years, and if the preceding months had been about the average; but the record for the whole year has been far under anything that has gone before, month after month showing the same good record. The conditions for having yellow fever are certainly as favorable as they were last year, the non-immune population being probably as great as it ever has been in Havana. The only change between last year and this is that since February all mosquitoes have been carefully killed in the neighborhood of every focus, as it has occurred. The infected house and all the adjacent houses, in every case, have been carefully disinfected. The fact that the marked improvement is not confined to October, but has taken place each month since attention has been devoted to the mosquito, is particularly emphasized by considering the yellow-fever year beginning the 1st of April. Since 1889, for these months, there have been on the average 362.16 deaths; the maximum, in 1896, 871; the minimum, in 1899, with 61; this year, 0. The change cannot be due to improvement in general hygiene, from the fact that last year, for this month, there were 74 deaths; this year, none. While there has been improvement in the general hygienic conditions, there could not have been so vast a difference as this would represent. The improvement in general hygiene is measured best by the general death-rate. The death-rate for October, 1900, was 24,33; this year, 1901, 20.17. The yellow-fever phase of the vital statistics is dwelt on, particularly on account of its vast practical importance to the United States. The great truth that yellow fever is transmitted by the "*Stegomyia*" mosquito, maintained by Dr. Charles Finlay against much ridicule for so many years, and recently demonstrated by the Army Board, must soon change all the methods of quarantine in the United States. In Havana, this year, work has proceeded on the hypothesis that the mosquito is the only way of transmitting the disease. Fomites have not been considered in any way. Clothing has not been disinfected nor any effort made, except to kill the mosquitoes which had bitten a sick person, and to prevent any more mosquitoes from biting, after the case was discovered. The results with this plan were so positive that it was soon seen that Havana could not be rid of yellow fever on these lines, but that each focus should be destroyed as it was renewed from the outside. The business interests of Havana were so closely united to those of neighboring towns that it was impossible to quarantine against them without causing entire business paralysis. These towns, early in the year, showed yellow-fever infection and a system of inspection of non-immunes was adopted, whereby every non-immune coming to the city from infected points in the neighborhood was registered and kept under observation for a week. In this way it was possible to get hold of all cases coming from these points—some 15 or 20 cases. Foci have developed in the city in each of the months of July, August and September, but they did not get beyond a few cases, and invariably disappeared after a disinfection, as described.

Obituary.—Henry Spencer Smith, F.R.C.S., Eng., a prominent surgeon of London, died on October 29th. He was the sole surviving charter member of the Royal College of Surgeons founded in 1843.

The deaths of the following eminent medical men are announced: Sir James Wilson Agnew of London, England; Dr. Marcel Nencki, the eminent physiologist of St. Petersburg and later of Berne, Switzerland; Dr. Arthur Koënig, of the Berlin Physiological Institute; Professor Karl Schuchardt, who was for some time assistant to Professor Volkmann at Halle.

Acting Assistant Surgeon Stuart Eldridge, of the Marine-Hospital Service, who was on duty in the office of the United States Consul-General at Yokohama, Japan, died recently. Dr. Eldridge was a native of New York, but had resided in Japan for many years. At the time of his appointment as an officer of the Marine-Hospital Service he was a member of the Imperial Board of Health of the Tokio Health Office and sanitary adviser to the Japanese Government. He was an honorary member of the New York State Medical Society and of the Alumni Association of Bellevue Hospital.

Dr. James P. Jackson died November 23d, aged fifty-seven years. He established the Missouri Pacific Railroad's first hospital at Washington, Mo., and the Wabash and Missouri Pacific's hospital service in Kansas City.

BYWAYS OF MEDICAL LITERATURE.

A SUCCESSFUL PHYSICIAN NOVELIST.

DR. JAMES BALL NAYLOR'S recent novel, "The Sign of the Prophet," promises to repeat the success of his first novel, "Ralph Marlowe." As the latter sold well up into the thousands and was for a time, from the author's standpoint at least, that very desirable success—one of the best selling books of the month, it is evident that Dr. Naylor has found literary occupation worth the while. The doctor is a practising physician at Malta, Ohio, and is, like so many other successful men of our generation, a self-made man. He worked on a farm, went to school at night and in the win-

ter taught school for a while, studied medicine and is now a successful novelist.

A succinct account of his career from his own pen appeared not very long ago in some of the literary journals. He puts it modestly in the third person. "His paternal ancestors," he says, "are Pennsylvania Quakers. His maternal ancestors are Virginia English. The family tree contains besides a sprinkling of Irish and Dutch as a condiment." He says characteristically "that he has worked on a farm, clerked in a drug-store, taught school, 'toted a grip' on the road, practised medicine and written for the newspapers."

Unlike most self-made men, the doctor does not too idolatrously worship his creator, although it is evident that he is not at all out of conceit with his own handiwork. He declares that "he got what little he knows by reading, writing and thinking. He believes that there is no school like experience, he bankrupts himself daily to gratify his taste for books, pictures and music, and rejoices in his penury. He loves dogs and children and never tires of the beauties of Nature. He could not live in the city if he would and would not if he could."

For the sake, perhaps, of brother physicians who may have literary aspirations, or for the sake of brother littérateurs who may not as yet have attained his success he gives some details of his methods of doing his work. "He thinks that he writes best of the things he knows best and he desires to stay close to them. He has a struggle with himself every time he sits down to write, then works like a galley-slave under the lash and enjoys it." He has a hobby and confesses to it thus: "He is an amateur photographer and wastes his substance in the riotous development of dry plates."

Dr. Naylor's books are pictures of life in a little middle Western town and are said to be drawn from life. He says that his first book was the legitimate child of experience and the details have a foundation in fact. The writing is cleverly done, the characters life-like, the story interesting, its development natural and unforced. In a word the medical profession would seem to have given another to the long list of popular novelists. Worthy elements in his success beyond the mere chance popularity of his books are undoubtedly present and so we may welcome another American literary physician.

OPERATIVE SURGERY IN AMERICA.

This is the title of an article in the October number of the *Nineteenth Century and After*, the well-known English monthly, by Robert Henry Nesbitt, M.D.

Dr. Nesbitt, who has seen the hospitals of England and this country, gives some points for the benefit of what he calls our English cousins. He finds the main distinction between English and American surgical methods to be that there is an evident dependence upon antiseptics in England rather than upon that extreme surgical cleanliness or asepsis which the American surgeon is accustomed to associate with his art. The only other important difference apart from individual peculiarities is the greater use of chloroform in England and the preference for ether in America. Dr. Nesbitt attributes some of our extreme spirit of surgical cleanliness to our environment. In the new tiled and porcelained operating-rooms so common in America it would be hard for any other spirit to prevail. It is a case of action and reaction, a new demonstration that one improvement in any matter always brings another in its train.

In the midst of hints directed to our English medical colleagues, Dr. Nesbitt has included some suggestive material that can scarcely fail to be of interest to the surgeons of every part of the world. We cannot refrain from quoting one valuable passage at some length.

"What I do wish to call attention to, however, is that bruising and tearing of tissue should be reduced to a minimum. Section should be done with a sharp knife—the sharper the knife the less injury—not with the fingers or the handle of the knife. Wounds should not be violently retracted nor stretched to give a better view. 'Pull harder,' is a poor expression for the operating-room. Fasciæ should not be dissected out beyond the limits of absolute necessity. In short, our wounds should remain simple incised wounds and not become contused or lacerated wounds through our own manipulations. During an active hospital service we sometimes see the wounds of one surgeon present those vexatious little delays in healing, such as superficial abscesses or stitch abscesses which irritate both patients and surgeons, while those of his neighbor, not more careful nor cleanly, heal without the slightest disturbance. The secret is that one man pulls and hauls his tissues and does blunt dissection, while the other has acquired the knack of doing his work with no injury beyond that absolutely necessary. The patients of the first surgeon may not die, but we and they expect more than that. Wounds should heal primarily."

EXPERTS.

The *Westminster Review* (London) for October has an article on this subject that is the usual antivivisection howl. It becomes increasingly difficult to understand how intelligent editors of reputable magazines admit this sort of rot to their pages. This is the usual collection of hints, half stated facts, garbled reports and insinuations. Fortunately the article is much shorter than is usually the case. This shows editorial good sense at least. The gist of the present attack on experimental medicine assumes that practically all physicians, absolutely all who are not outspoken in their condemnation of vivisection, are ready to experiment upon human beings and even to make their patients the unconscious subjects of scientific experiences. For people who will believe such statements there is nothing to be said. There is no common standpoint of recognized truth from which argumentation

against their opinions can begin. They must be left to their systematized delusions founded, as they are, on groundless imperative ideas.

PSYCHIATRY: ANCIENT MEDIEVAL AND MODERN.

This is an excellent historical review of the treatment of mental diseases in all times by Frederick Lyman Hills, M.D., of the New Hampshire State Hospital. It appears in the *Popular Science Monthly* for November. There are some striking facts in this history of the popular attitude towards insanity. For instance, the author says that it is probable that one-fourth of the 40,000 persons executed for witchcraft during the first 80 years of the seventeenth century in England alone were insane. While some of the poor insane were taken thus seriously, others were a subject of public exhibition. The famous hospital called Bedlam in London was converted in the reign of Henry VIII. into a house for the reception of lunatics. Up to the year 1770 the patients were exhibited to the public like wild beasts in cages on payment of a penny and they are said to have afforded much sport to the visitors who flocked to see them in numbers estimated at not less than 48,000 annually. Surely not a thought to dwell upon in these latter days.

The spirit that gave rise to the French Revolution and its awful horrors by a queer contrast proved the origin also of a proper realization of the duties owed by the State and the medical profession to the unfortunate insane and also we may add to the deaf and dumb and the blind. It was as a result of the recognition of inalienable individual rights brought about by the declaration of the "Rights of Man" that Pinel was able to obtain permission to remove the chains from the insane patients at Bicêtre and the Salpêtrière. The improvement in the treatment of the insane among English-speaking people is, curiously enough, largely due on both sides of the Atlantic to the initiative of the charitable spirit of that well known philanthropic body, the Society of Friends.

The history of psychiatry is interesting and of suggestive importance, because it represents the gradual development of the attitude of mind which recognizes the diseased state from which insane patients suffer. The progress to gentleness in the treatment of the insane represents the gradual evolution of unselfish philanthropy in the advance of culture. Recent years have seen the development of the open-door system and the almost complete eradication of all methods of restraint. The more wholesome feelings in this matter are an index of advance in true humaneness and a forecast of the still greater spirit of kindliness toward mental unfortunates that is to develop during the present century. History in this becomes a teacher of practical importance, because an incentive to earlier evolution of true popular notions in this great and ever increasing subject.

CORRESPONDENCE.

OUR LONDON LETTER.

[From Our Special Correspondent.]

LONDON, November 16, 1901.

THE GENERAL MEDICAL COUNCIL—ELECTION OF MEMBERS FOR ENGLAND, SCOTLAND AND IRELAND—FAILURE OF DIRECT REPRESENTATION—OPINIONS OF SIR JAMES PAGET—THE LIVERPOOL SCHOOL OF TROPICAL MEDICINE—ILLNESS OF A PROMINENT PATHOLOGIST.

WE have here, as you know, a kind of medical Parliament or Senate, the General Medical Council, which is supposed to look after the education of candidates for admission to our noble profession and the professional morals of its members. In a previous letter I gave a sketch of the composition of this highly respectable, but only moderately useful body. The bulk of it is made up of representatives of our numerous universities, colleges and corporations which grant the license, as Molière puts it, *purgandi, seignandi, taillandi, coupandi et occidendi impune per totam terram,* or, to be accurate, such portion of the earth's surface as is comprised within the sphere of King Edward's sway. In addition to these, there is a handful of members of the Council who are elected directly by the profession. Of these "direct representatives" England has the privilege of possessing three, while Scotland and Ireland have each one. They are elected for five years, and their lease of representative life has now with one exception virtually run out. The exception is Mr. Victor Horsley, who was returned at a by-election four years ago. Mr. Horsley had announced his intention of waiving his right to sitting for another year, and of offering himself for re-election with the others. Almost at the last moment, however, it was discovered that, according to the wording of the Act, if he resigned before having served out his time, he could not stand as a candidate.

The medical profession of Great Britain will, therefore, in another week or two be called upon to take part in a general election in miniature. Owen Glendower boasted that he could call spirits from the vasty deep, but Hotspur unkindly asked if they would come when he called. This may be applied to the profession in regard to the election. Judging from the precedent of the last two or three, they will not come however urgently they are called. The fact is, the medical profession as a whole regards the election and the General Medical Council, its acts and deeds, as well as its alleged misdeeds, with profound indifference. The whole business is practically left to a small body of fussy nonentities who think that the professional world is out of joint and that they were born to put it right. Their aim is not to raise the general standard of scientific knowledge, of intellectual culture, and of personal character and conduct, but to make it a profitable commercial monopoly. Their ideal is a strong trade-union. The election will, therefore, turn

on such matters as the prosecution of quacks, the suppression of certificated midwives, and the "boycotting" of practitioners who make their own terms with friendly societies and similar organizations. The candidates—on the enumeration of whose names I need not waste a line—have been on the stump for some weeks, and the medical journals are full of their dreary oratory. Among the candidates for England is a homeopath, who, like the rest, is calling for the reform of things in general. They all profess to believe that everything could be put right, as by the waving of a magician's wand, if the General Medical Council were "reformed," that is, if it were to be composed entirely of "direct representatives." In order to appreciate the statesmanlike character of this demand, it is necessary to know that, in the judgment of all sane men who have given any attention to the subject and dare to speak out, "direct representation" has been an utter failure from the beginning and now threatens to become a disgrace to the profession. At recent elections men of no professional standing whatever have been returned, who, by their illiterate speech and their narrowness of view characteristic of the petty tradesman, have brought themselves and the constituents who chose them into contempt. The violence of others, for whom the excuse of want of education cannot be pleaded, has disgusted sensible men. Not long ago I heard a man, who may be taken as the type of a British doctor of the best kind, when some one spoke of the increase in the number of direct representatives that is being clamored for, exclaim with a groan, "More of that sort? Heaven preserve us!" This may be taken as representing a widespread feeling, but the incurable apathy of the profession in regard to medical politics prevents the feeling finding practical expression. Scarcely a third of the practitioners of England could be got to vote in the most fiercely-contested election there has yet been—that which took place four years ago when Mr. Horsley defeated Sir Walter Foster.

I have just been reading the "Memoir and Letters of Sir James Paget" by one of his sons which has recently been published. There are in it one or two passages which have a special interest at the present time. Paget was a member of the General Medical Council, and under date October 30th, 1896, we find him complaining to Sir William Turner (who is now its president) that "the whole work of the Council is constantly becoming more political." He goes on to say that "the direct representation will not improve it, but will steadily diminish its influence on the advancement of science and of all forms of useful knowledge." Paget spoke from most extensive experience of men and things in the medical profession; he was also a man of singular intellectual honesty, and his opinion on a matter of this kind is of the greatest possible weight.

Among those whom the King delighted to honor on the occasion of his own birthday was Mr. A. L. Jones, the Liverpool merchant whose name has come so prominently—and so persistently—before the public during the last two or three years in connection with the Liverpool School of Tropical Medicine. It has been a close run between him and Major Ronald Ross; it is doubtful, indeed, which of their names has shone most regularly in the journalistic firmament. Of course, neither of these illustrious men can be suspected of a vulgar desire for advertisement; they shine because they are luminous, and if their light has not been hidden under a bushel, the reason of this is doubtless that otherwise the world would have been left in darkness. The world, however, is proverbially ungrateful, and one hears that Liverpool is getting a little tired of Sir A. L. Jones, Knight Commander of the distinguished order of St. Michael and St. George; and it is even whispered that the medical profession of that city is beginning to feel that it has had almost enough of Major Ronald Ross. They are not so proud as they perhaps ought to be of the School of Tropical Medicine which they owe to the commercial enterprise of Sir A. L. Jones. It has been uncharitably suggested in a weekly journal called the *Critic* that the aforesaid Knight's munificence in fitting up scientific expeditions to the West Coast of Africa is intended to hypnotize the British public into the belief that the happy hunting-grounds which he has made for himself in that ill-favored region are in reality first-class health resorts.

As for the school, if advertisement in season and out of season can make it prosper it should be successful. Probably it does fulfil the object of its existence; at any rate those concerned in the venture profess to be satisfied with its progress. It certainly is excellently equipped and it has teachers of unquestionable ability. The only thing which it lacks is students. I have been told on good authority that last term the number of seekers after knowledge who knocked at its gates was—four. But as the prophetic soul of Sir A. L. Jones, dreaming of things to come, has quite recently induced him to found a college for students which it is said will in time provide accommodation for 200, it is evident that he puts his trust in the future. And the announcement of the fact has also, it may be presumed, its purpose in the present.

Dr. Lazarus-Barlow, one of the rising lights of pathology in this country, has been sick nigh unto death from the effects of a postmortem wound. It is said that he has had to undergo amputation of the arm. He is now slowly recovering.

INSURANCE EXAMINATION FEES.

To the Editor of the MEDICAL NEWS:

DEAR SIR: I was much interested in the editorial in your issue of November 2d on contract services. As it is in direct line with another great evil, I beg to say a word about it.

The various fraternal insurance societies ask an examination equal to that of old line companies

even to the urinalysis, and have the boldness to ask it all for the munificent sum of one dollar. And this does not include it all. We are further asked to do an agent's work by filling out the applications for membership and even urged to solicit new members.

The old line companies have set the price of these examinations at from $3.00 to $5.00, which is reasonable and fair—certainly not too much—and do not ask the doctors to do any extra work at all. They are willing to pay a fair price for good work and their medical directors are not beggars, but when I see a member of our noble profession asking his brother to work for one-third to one-fifth of what the work is worth I am shocked and ashamed.

What about the doctors who will make these examinations for "contract price"? They are only establishing a price for the rest of their work, and when the demand for the reduction is made they will probably be so afraid their next-door neighbor will get the case that they will readily cut the price in a similar manner to the insurance fee.

I would suggest that every medical society in the land take up this matter and do away with the absurdity of working for one-third to one-fifth price, and would add that, in my humble opinion, no self-respecting doctor will do $5.00 worth of work for $1.00 when it is for people able to pay.

I am free to reduce a charge for charity or even make no charge at all, but when it comes to reducing prices in order that this or that society may advertise the very low cost of insurance in order to compete with others, I protest.

In regard to fraternal insurance, I might also say that it is much the same as other things. People who try to get something for nothing usually get left, and the 2,000 defunct societies in our land will illustrate this fact.

Weldon, Ill., Nov. 8, 1901. D. D. Barr.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

CALCIFIED EPITHELIOMA—HEMO- AND CYTODIAGNOSIS IN SURGERY—RACHICOCAINIZATION—CHLOROFORM ANESTHESIA—ETHYL CHLORIDE ANESTHESIA—ANTITETANIC SERUM—CRANIAL TRAUMA WITH SURGICAL INTERVENTION—EPILEPSY WITH SURGICAL TREATMENT.

J. Reverdin (Geneva) at the Fortieth French Congress of Surgery, held at Paris, October 21 to 26, 1901, read the notes of a case of calcified epithelioma. The tumor was removed from the neck two years ago, was of bony hardness, and in gross appearance strongly suggested the variety described by Malherbe of Nantes. Contrary, however, to the teachings of this authority and his pupils a recurrence took place. It would, however, appear that the essential benignity of the calcareous epithelioma is less definite than they have supposed. Malherbe himself reported to Reverdin the fact of one recurrence. The author has correlated some fifty-three cases of this disease and found only two examples of recurrence, namely, the cases of Malherbe and himself. The author's patient refused a second operation, but was followed for some time. After a while the tumor grew to considerable proportions.

Tuffier (Paris) presented a discussion of the comparative value of hemo- and cytodiagnosis in surgery, claiming that they furnish the means of deciding between two classes of affection, the suppurative and the non-suppurative. One example, which he quoted, was the case of a woman, pronounced by a number of competent physicians to be the subject of an osteosarcoma, who was found to have a suppurative condition by an examination of her blood. This diagnosis was confirmed at the time of the operation. Again, the decision between a case of appendicitis and of typhoid fever can often be fixed to a degree of nicety by this method alone. Finally, the distinction between the various types of tumors can also be made out thoroughly. The cytodiagnosis conceived by M. Widal is equally a means of settling difficult points. Lumbar puncture will permit us to distinguish definitely between a fracture of the skull and simple cerebral contusion, provided blood is found in the cephalo-rachidian fluid.

Villar contributed a report of seventy-six rachicocainizations for various surgical operations, chiefly on the lower extremities and the subumbilical zone of the trunk. His first series comprised thirty-six cases, of which two only were failures and each of these was a laparotomy. No bad effects were noted in the other cases, beyond a cephalalgia of great intensity which seemed to be the only actual sequel of the injection. Three of these patients died, the first from shock due to acute intestinal obstruction; the second from the after-effects of a complicated fracture of the pelvis, and the third was hopeless at the time of the operation. In the second series, namely, forty cases, there were no deaths and no unfavorable sequelæ.

Peravie (Paris) narrated his experiences with chloroform as a general anesthetic in 2,000 cases. He had only one death which occurred at the end of the operation and made him believe that after all the anesthetic had little or nothing to do with it, because fatalities from chloroform alone usually occur very early in the course of the operation. The method of administration which he used is the small dose continuously given. The author said that every practitioner should keep notes of all his cases of general anesthesia and report the same, especially with the view of making comparisons with the injection of cocaine into the spinal cord.

A. Malherbe (Paris) commended a new method of giving ethyl chloride for general anesthesia during operations which last a short time. The procedure involves pouring from a half to a full teaspoonful of the drug into a tight cone, shutting off the air and compelling thus the in-

spiration of concentrated vapor. Full anesthesia supervenes in a very few seconds. If, however, the operation is to be prolonged, it is better to change off to chloroform so soon as the fact of long duration becomes evident.

LETOUX (Vannes) delivered a dissertation on the therapeutic value of antitetanic serum, basing his observations upon four recent cases, comprising three among farmers with wounds of the foot and one in a cook. In all the injury and infection were of comparatively recent date, ranging from seven to ten days. The treatment was begun as soon as the earliest symptoms of tetany showed themselves. It is not always necessary to resort to anesthesia and after all the injection of the fluid into the cerebral ventricles is not a difficult procedure. In the opinion of this observer, his prompt and complete cures were due to the generous injections he used. Ten cubic centimeters were thrown into each hemisphere.

BOUSQUET (Clermon-Ferrand) narrated six cases of injury to the cranium which required surgical intervention. In all those operated upon five days after the accident or earlier the results were ideal. Symptoms of cerebral compression soon appeared in all of the cases and the craniectomy permitted access to and removal of the cause of the difficulty. He also referred to another series of cases in which the operation was done too late. It is more and more evident that these cranial operations must be done at the earliest possible moment after the appearance of any symptoms, because delay often results in permanent or hopeless damage by the factors which cause the symptoms.

VIDAL (Périgneux) stated that by means of amyl nitrite he had been able to distinguish cerebral compression as the cause of a general epilepsy. Hemicraniectomy revealed a small, sessile, intradural fibroma. This was at once removed and a cure followed. The operation was done several months ago and since that time no vestige of the epilepsy has remained.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Stated Meeting, Held November 14, 1901.

William L. Stowell, M.D., Chairman.

Automatic Siphon.—Dr. Henry L. Coit said that one of the principal difficulties in arranging for infant-feeding with the proper proportion of ingredients in the prepared food is the difficulty of easily obtaining cream of a definite percentage of fat content. He thinks that the siphon he presented will overcome this difficulty. It is a creaming siphon that will effect the complete separation of the cream at the cream line, or deliver a mixture of cream and skim milk, at any line to be determined upon. The ordinary quart milk-bottle is used as the source of the cream and milk. This is supposed to hold 32 ounces, but most of them do not hold much more than 31 ounces. There are differences in the contents, because the bottles are molded and some of them contain more glass than others. This gives rise to some inaccuracy in the delivery of a definite quantity of milk and cream, but not enough to vitiate the proportion seriously. The table on which the bottle rests must be level and the siphon must be inserted to the bottom of the bottle. The end of the siphon that dips into the bottle is funnel-shaped. This enables it to be filled easily with water, and this lessens the danger of the nursemaid applying her mouth to the end of the siphon in order to start the flow of liquid, which is always an objectionable proceeding. Moreover, the presence of the funnel makes it easier to clean the tube in running water, and when inserted into the bottle the funnel-shaped end causes the instrument to rest more evenly on the bottom of the bottle than would otherwise be the case. If about four ounces are allowed to remain in the milk bottle, with the usual milk, this will contain about 20 per cent of fat. When six ounces are left it contains about fifteen per cent; eight ounces, about twelve per cent; 11 ounces about 10 per cent, and 16 ounces about 8 per cent of fat. The ordinary milk as served to customers in cities is presumed to contain, according to well-known investigation, about 4 per cent of fat.

Top Milk.—Dr. Chapin has found that the best way to obtain a fairly constant cream is to allow milk to stand for about six hours in a cool place. The creamy layer, known as gravity cream in the trade, contains nine-tenths of the butter fat in the milk. If the first nine ounces of this are used, it may be considered to contain cream in the proportion of three to one to the amount of milk. If the first fifteen ounces are used, the proportion is about two to one. For the obtaining of this upper layer Dr. Chapin considers that the dipper, which he suggested some time ago, is cheap and clean and easy of employment. It is a simple matter to give the nursemaid the proper directions for its use. Above all things to be successful, the feeding of infants must be simple. If there is any dirt in milk it is well known that it sinks to the bottom and can often be seen in bluish black particles through the glass of the bottle. By the use of Dr. Coit's siphon, this dirt is not apt to be removed, or at least not removed entirely, because the upward flow through the siphon is gentle and does not disturb the lower layer of milk very much. The dirt remains to contaminate the upper layer of of milk, which is left in the bottle after siphoning to be used for feeding purposes.

Safety-Pin in Vagina.—Dr. Sara Welt-Kakels presented a safety-pin that had been removed from the vagina of a child of eight years of age. When the child first came under treatment it was suffering from a vaginal discharge that was at times bloody. This led the mother to think that perhaps the child was developing precocious menstruation. The discharge was considered an ordinary leucorrhea, and was treated by vaginal

irrigation with permanganate of potash solution and improved considerably. After a time, however, the discharge recurred and once more was streaked with blood. A small vaginal speculum was then inserted and grated upon a hard object. The safety-pin was found and removed. It was considerably corroded by the action of the vaginal secretions. Since its removal the discharge has not reappeared.

Coin in the Esophagus.—A child of thirteen months was brought to the speaker suffering from severe vomiting the origin of which was traced apparently to its having swallowed a penny. The child was given the coin to play with and it disappeared; afterward whenever food was taken vomiting occurred. The first physician who saw the case recommended the potato cure, but the potatoes were vomited. An operation was then suggested, but the mother refused to permit it. Dr. Kakels located the cent by means of the Roentgen-ray and found that it was situated in the esophagus about the level of the first rib. It was removed by means of a flexible bougie with the coin-catching attachment. There has been no vomiting since and the patient's general condition has improved very much.

Apparatus for Collection of Urine and Feces.—Dr. Kakels presented an apparatus that is used in Prof. Heubner's clinic for the collection of urine and faces for the purposes of observation upon child metabolism. A tube is fitted to the urinary apparatus in front and to the anus behind and the child is placed in a garment that enables these tubes to be readily held in position. Professor Heubner says that children do not stand being in the apparatus for long periods, but if a physician has occasion to collect urine, for instance, and wishes to obtain it in some less inaccurate way than is usually the case, this apparatus is extremely useful.

Widal in Typhoid in Children.—Dr. Milton A. Gershel read a paper on the value of the Widal reaction in children as illustrated by cases seen in the service of Dr. Koplik at Mt. Sinai Hospital. Typhoid in children in the hospital experience runs an atypical and often an anomalous course. The temperature curve is not infrequently irregular, the spleen is often not enlarged, and, besides, enlargement of the spleen is not as significant in children as in adults, because it occurs whenever rachitis exists or in intestinal disturbances generally. The method of applying the Widal test at Mt. Sinai Hospital was to determine whether agglutination of the bacilli took place when the blood was diluted to the extent of one to twenty. If there were still doubts, then the test was repeated with a dilution of one to fifty. Dried blood was used in all cases, except where the clinical course of the case aroused serious suspicious of typhoid and yet the Widal test continued to be negative. In somewhat less than half the cases typhoid fever in children ran the usual course. In the remainder it was suspected that other diseases were present. Among these were such conditions as tuberculous meningitis, or peritonitis, certain cases of pneumonia, and some seemingly simple intestinal conditions. In only 36 of over 100 cases was the Widal reaction positive at a first examination. Thirteen per cent of the cases gave the reaction before the seventh day of the fever, 46 per cent before the fifteenth day and 85 per cent before the twenty-fifth day. In more than half the cases, therefore, the Widal reaction left the diagnosis in doubt until well on in the third week.

Late Widal Reaction.—Dr. Lovett Morse of Boston, in the large series of cases collected by him, found that the Widal reaction did not occur in most cases before the end of the second week. Professor Musser pointed out in the Philadelphia series of cases that the reaction did not as a rule occur before the seventh day. In this series of cases at Mt. Sinai Hospital, eleven gave a positive Widal before the seventh day. Because the occurrence of the Widal reaction is delayed there is no reason for thinking that the disease is not typhoid if other symptoms raise the suspicion of its existence. In one case thirteen blood-examinations were negative before the positive reaction was finally obtained, yet all the time the case was running a typical typhoid course. Other symptoms, such as the diazo-reaction and even bleeding from the bowels, had occurred. In some cases the Widal reaction is only positive during convalescence from typhoid fever. In most cases the occurrence of a negative reaction has but very little significance. The experience at the Mt. Sinai Hospital points out that typhoid fever often exists in children in cases where it was usually unsuspected and where the symptoms apparently pointed to the existence of some other disease. In all cases presenting bronchial or meningitis symptoms that occur during the summer and fall the Widal reaction should be looked for. It often clears up the diagnosis of the case and shows the typhoid origin of the symptoms.

Exanthematous Typhoid.—In one case at Mt. Sinai Hospital the patient, after having been admitted with a rather high fever, developed an extensive exanthematous eruption. This aroused the suspicion of scarlet fever and the case was isolated. An examination of the blood showed that the Widal reaction was present. Later the disease ran a typical typhoid course. Dr. Koplik considered this to be one of the rare cases of exanthematous typhoid that have been reported by certain authorities, the existence of which has sometimes been doubted. In one case the patient seemed to be suffering from lobar pneumonia. Under ordinary circumstances a few years ago no other diagnosis could have been made. A typical Widal reaction was present and the subsequent history showed that the case was undoubtedly one of typhoid. Three other children in the family suffered from typhoid fever, displaying the ordinary symptoms of typhoid and the Widal reaction and cases developed in

the same house, on the floor above and below that on which the child had lived. In one of the cases at the Mt. Sinai Hospital all the symptoms of purulent meningitis were present. The child had the stiffness of the neck muscles, was stupid and not easily aroused and had the Koenig symptom. The Widal test was made and a positive reaction obtained. Afterward a needle was inserted into the spinal canal and some cerebrospinal fluid removed. This proved to be clear, but contained typhoid bacilli, thus confirming the Widal test. The child recovered, showing that the diagnosis of purulent meningitis would have been a mistake.

Importance of Widal Reaction.—Dr. Koplik said in the discussion that the employment of the Widal reaction at the Mt. Sinai Hospital has made it very clear that it is extremely important to make the Widal test whenever children suffer from febrile symptoms for which no sure cause can be given. There are many conditions in children which resemble each other and the diagnosis can frequently only be made by exclusion. It used to be said that typhoid was rare in children. This was only because of the difficulty of making an assured diagnosis of the disease. He has seen the Widal reaction positive in a child so well that it was playing around the ward, though with a slight febrile temperature. The case did not prove a severe one, but it can be easily understood that in the midst of a large family or in a crowded tenement-house such a case might easily prove a center for the spread of infection. In meningeal cases, especially, it is important to make the Widal test, since one does not always care to make a lumbar puncture, and, moreover, the diagnostic significance of the cerebrospinal fluid is not always final.

Frequency of Typhoid in Children.—Dr. Berg of New York said that it is not ten years since a great specialist in children's diseases said in New York that he doubted if typhoid fever ever occurred in children under five years of age. Now we know, mainly as the result of the Widal test, that the disease is not uncommon even in very young children. If they are exposed to infection they are quite as liable to take the disease as adults. Undoubtedly the Widal test is of extreme importance for the diagnosis of typhoid. It is the most omnipresent symptom. Dr. Cabot of Boston has collected five thousand cases of typhoid fever in 97 per cent. of which the Widal test was positive. The Widal reaction is not of importance for the early diagnosis of typhoid fever. For this purpose the blood-count is undoubtedly better. There will often be found a diminished number of white blood-cells on the first or second day in bed with typhoid fever. The demonstration of the lowered leucocyte-count is rather easy and if taken in connection with other clinical symptoms may be of very great importance in pointing out the existence of typhoid fever in a doubtful case long before the Widal reaction develops.

Bovine and Human Tuberculosis.—Dr. David Bovaird of New York read a paper on primary intestinal tuberculosis in human beings and its relation to bovine tuberculosis. The recent paper of Professor Koch before the International Tuberculosis Congress has made interest in this subject acute. Dr. Bovaird has been collecting data on the subject for some years. The number of cases of primary tuberculosis of the intestines supposed to be connected with bovine tuberculosis directly are extremely rare. Bacteriologists are not agreed whether human and bovine tubercle bacilli are varieties of the same microorganism or are individual bacteria with certain extrinsic similarities. Tuberculosis in cattle is not at all rare. It is, however, not as frequent in this country as has been sometimes asserted. Professor Osler points out that in Baltimore about three per cent of the more than 5,000 cattle that are slaughtered yearly are tuberculous. In Boston less than 1 per cent are found to be affected with tuberculosis. The German Government called attention to the fact that bovine tuberculosis was not liable to be communicated to human beings by eating the flesh of tuberculous animals, unless nodules of tuberculous infiltration occurred in the muscles. This is, however, extremely rare. With regard to the milk of tuberculous animals, it is dangerous only when the udder of the animal is affected and tubercle bacilli thus find an entrance in numbers into the milk. Adami, however, has found tubercle bacilli in milk where there was no demonstrable tuberculous affection of the udder to be found after very careful examination by all the known physical methods.

Milk Dangers.—Professor Nocard of Paris pointed out that even when the milk of animals injected into the peritoneum of guinea-pigs proved to contain virulent tubercle bacilli and set up tuberculous processes, the fluid might still be perfectly harmless when ingested by the mouth. The digestive juices bring about changes in the vitality of the tubercle bacilli, or absolutely deprive them of life, and so prevent their inflicting any injury. It is evident from the experience of many parts of the world that milk is virulent only when there are very many tubercle bacilli in it and when this material is used almost exclusively as an article of diet as is the case in infants and in invalids.

Bovine Tuberculosis in England.—English cattle seem to suffer more from tuberculosis, and tubercle bacilli are oftener found in the milk supplied in English towns than in our country. Kanthack found that more than one-half of the cattle near Cambridge in England were affected by tuberculosis. In Liverpool it was noted that the milk from cows taken care of in the city itself was less dangerous in this respect than that obtained from the country. The reason for this was that more care as to cleanliness and the maintenance of health was insisted on in the city then in the country. There is no doubt that under ordinary circumstances the dilution of the milk of tubercular animals by that from healthy animals greatly lessens the danger from this source.

Milk and Human Tuberculosis.—There is but scanty evidence of milk producing tuberculosis in children. Notwithstanding all that has been said in this matter and the amount of sensational claims made, Dr. Bovaird after careful search of the literature has been able to find only sixteen cases in which tuberculous infection could be fairly traced to milk. This is an astonishingly small number, yet even these few cases show the possibility for this form of infection and point out an ever-present danger. Tuberculous processes often exist at the same time in the respiratory and intestinal tracts. It is probable that at times the tubercle bacilli penetrate the intestine without producing injury, that is, without ulcerative lesions, but then they are caught in the intestinal lymph-nodes. It is only when intestinal lesions exist exclusively or when the abdominal lesions are much more pronounced than the respiratory lesions that tuberculosis can be considered to have found its entrance through the intestines. Professor Woodhead of England considers that primary intestinal tuberculosis is rather frequent. Nearly all the continental authorities on the subject of tuberculosis are opposed to this opinon.

English and American Statistics.—While in England the proportion of intestinal primary tuberculosis to all other forms of tuberculosis seems to be as high as eighteen per cent, in New York in three series of cases it is scarcely more than one per cent. This makes a difference of opinion that is extremely hard to reconcile with facts and a problem whose solution Dr. Bovaird is unable to reach. At the New York Foundling Asylum there are nearly 2,000 infants under the care of the institution. In case of death autopsies are made and in two series of cases of tuberculosis, 125 in all, only five cases, three in the first series and two in the last one, could be fairly considered to be primary intestinal tuberculosis. In this series of autopsies the deaths from tuberculosis represent eleven per cent of all the causes of death. This is considerably lower than that of foreign observers, but is very nearly the average percentage of deaths from tuberculosis according to various observers in this country. Tuberculosis of the intestine is less frequently observed there than abroad, and it is evident that tuberculosis is seldom due to tubercle bacilli in milk. It would seem, however, that the possibility of infection in this way cannot be denied.

Respiratory and Intestinal Tuberculosis.—Dr. William H. Park said that wherever patients with respiratory tuberculosis are found a great many tubercle bacilli are sure to be present in the air. It is possible, then, even when the primary lesions of tuberculosis occur in the intestinal tract that the source of these micro-organisms may have been the air from which the microbes are deposited in the mouth and then swallowed. In such cases the true source of the infection is human and is not derived from cows or other animals.

Experimental Work on Tuberculosis.—Dr. Park has recently had made a series of observations on calves at the laboratories of the New York Board of Health. Five animals were inoculated subcutaneously and fed with human tubercle bacilli. Before the experiment none of them showed any reaction to tuberculin. Neither did a sixth animal that was kept as a control. After five weeks of repeated inoculations and feeding with tubercle bacilli, the five animals showed a reaction to tuberculin. Two of them were killed, but no bacilli were found, nor any characteristic lesions of tuberculosis. Two of the remaining three animals have run down in health and are showing signs of some constitutional disease. They will be killed when it is hoped that satisfactory lesions have been formed. Some time ago Dr. Ravenel showed by a series of experiments that animals could not be infected with pure human tubercle bacilli. If, however, secondary infective processes were at work as well as tuberculosis, then human tuberculous material became virulent for animals. Human sputum for instance that showed signs of mixed infection produced tuberculous lesions in cattle. It would seem that the presence of other bacilli in addition to the tubercle bacilli lowered the tissue resistance of the animal and caused infection.

Foreign and American Tuberculosis.—Dr. T. S. Southworth said that in a series of autopsies made by him and previously reported he found that the average mortality from tuberculosis in children in this country constitutes from ten to eleven per cent of the deaths from all causes. He is not surprised that foreign statistics should show a much higher proportion of mortality from tuberculosis than our American statistics, for they take much less care of their milk supply. This is especially true in Vienna, where the death-rate from tuberculosis is very high and where the climate seems to have a special effect in creating a tendency to tuberculous infection. Dr. Southworth thinks that there is an evident connection between a high mortality in children from tuberculosis and lack of care in the collection of milk.

Infrequency of Intestinal Tuberculosis.—In closing the discussion Dr. Bovaird said that it is extremely difficult as a rule to decide whether there is primary infection of the intestines or of the respiratory tract. If there are breaking-down tuberculous lesions in the lungs there will always be minute ulcers of the intestines and enlargement of the mesentery glands, but it is evident that in such cases the patients have infected themselves and that their infection has not come from the food. If such cases are carefully excluded from the statistics it will be found that primary intestinal and mesenteric tuberculosis very rarely occurs.

West End Medical Society.—This Society meets next Saturday at residence of Dr. Fielding Taylor. Dr. Jelliffe will read a paper on "Some Phases of the Opium Habit."

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ORIGINAL ARTICLES.

A CASE OF SUTURE OF A STAB-WOUND OF THE HEART, WITH REMARKS ON, AND A TABLE OF, CASES PREVIOUSLY REPORTED.

BY GEORGE TULLY VAUGHAN, M.D.,
OF WASHINGTON, D. C.;
SURGEON U. S. MARINE-HOSPITAL SERVICE; MAJOR AND BRIGADE SURGEON U. S. V. DURING WAR WITH SPAIN; PROFESSOR OF SURGERY, GEORGETOWN UNIVERSITY.

C. W.; aged twenty-three years, male, negro, was stabbed in the evening of October 2, 1901. On examination about half or three-quarters of an hour later the patient was unconscious, but extremely restless, tossing about and talking incoherently. The extremities were cold and no pulse was perceptible in the radials. A clean-cut wound was seen in the chest, 5 cm. long, extending downward and slightly outward and completely dividing the left fifth costal cartilage close to the sternum. The wound gaped so that the pericardium could be seen.

Preparation was made for immediate operation. The chest-wall was hurriedly washed off with a solution of bichloride and enough ether was given to quiet the patient's struggles. The external wound was extended longitudinally above and below, making the total length 15 cm., the outer flap was dissected back exposing the ribs, the costal cartilage of the fourth rib was divided and the fourth and fifth ribs were divided with bone forceps about 7 cm. from the sternum. The muscles of the fifth intercostal space were then divided and the flap of the chest-wall turned up, clearly exposing the pericardium and left pleural cavity. An opening about 5 cm. in length was seen in the pericardium and was enlarged below to 7½ cm., revealing an opening in the wall of the left ventricle close to the inter-ventricular septum, from which the blood spurted with each contraction of the heart. The edges were quickly pressed together and held so by a pair of hemostats grasping each edge until the wound was closed by a continuous suture of silk in a curved needle, making seven stitches which did not include the endocardium. The wound in the heart was 2½ cm. long and shaped like the letter "Y" with the right branch about half the length of the left. The pericardium and pleural cavities were then emptied of blood and clots, of which there must have been at least 2,000 c.c., and the pericardium closed with continuous silk sutures. About this time the heart stopped and neither artificial respiration nor squeezing the heart was able to start it again. The operation lasted less than fifteen minutes. Death was caused by hemorrhage. There was not time to inject salt solution into the veins, though this was intended, as the most important indication was to stop the hemorrhage and all efforts were devoted to that end.

To the cases reported in the excellent article by L. L. Hill, "Wounds of the Heart, a Report of Seventeen Cases of Heart Suture."[1] I have added my case and 8 others and have arranged them in tabular form, giving, as far as the information could be obtained from the reports, the name of the operator, year of the operation or report, the situation of the external wound, the chamber of the heart wounded, size of wound in the heart, time of operation after injury, whether anesthesia was used, result, and remarks.

A study of these 26 cases sutured gives the following results: Recoveries, 9; deaths, 17; mortality, 65.38 per cent. Of the chambers wounded, the left auricle, 1; left ventricle, 12; right ventricle, 8; not given, 5.

From this it would seem that the ventricles are far more likely to be wounded than the auricles, in the proportion of at least 75 per cent., and that the left ventricle is most frequently wounded of all the chambers. Of those who recovered 2 were wounded in the right ventricle and 7 in the left ventricle (including the apex), 2 possibly non-penetrating and 1 in the apex certainly non-penetrating.

Mortality.—If we subtract from the recoveries the 3 cases in one of which the cavity was certainly not opened and the other 2 in which the cavity was probably not opened—if so, the opening must have been very small—we find the mortality of *penetrating wounds* of the heart as shown by this table to be 76.93 per cent.

Time of Operation after Injury in Relation to Prognosis.—If we study the time which elapsed after the receipt of the wound before the operation we will be struck with the difference in the fatal and non-fatal cases; thus in the former the minimum time was "immediately" and the maximum one and one-half hours, time not given in 10 cases, while of recoveries the minimum time was five hours and the maximum over twenty-four hours—time not given in 3 cases. The obvious inference is that if the patient lives after receiving the wound five hours or longer before the operation, his chances of recovery are much better than many operated sooner, as the fact of living five hours without operation proves the wound to be less than the average in severity.

Dangers.—Without doubt the greatest immediate danger is from hemorrhage, next from shock and entrance of air into the heart. Then comes the danger from pericarditis, empyema and pneumonia. Of the 26 cases, 1 had pericarditis; 2 empyema; 2 empyema and pericardi-

[1] Med. Rec., Dec. 15, 1900.

CASES OF SUTURES OF WOUNDS OF THE HEART.

Operator and Year.	Location of External Wound.	Chamber Wounded and Size of Wound.	Time of Operation after Injury.	Anesthetic.	Results and Remarks.
1. Farina. 1896	Just above the margin of the left 6th rib, near the sternum.	R. V. ¼-inch. 3 stitches.	.....	.....	D. 6th day. Death from bronchopneumonia.
2. Cappelen. 1896	4th left intercostal space in mid-axillary line.	L. V. 4-5-inch.	1 hour.	.....	D. after several days. Death from pericarditis. Branch coronary artery cut.
3. Rehn. 1896	4th left intercostal space near sternum.	R. V. 3 stitches.	Following evening.	.....	R Empyema.
4. Parozzani. 1897	7th left intercostal space, mid-axillary line.	L. V. ¾-inch.	5 hours.	None.	R.
5. Parozzani.	3d left intercostal space.	L. V. 3-5-inch.	½ hour.	None.	D. Death on second day from anemia (?). Interventricular septum had been cut.
6. Fummi. 1898	Under left nipple.	Apex. Cavity not opened, 1 stitch.	Several hours.	.....	R. Empyema.
7. Ninni. 1898	5th left intercostal space.	L. V. 3 stitches.	Quickly.	None.	D. Death on table.
8. Parlavecchio. 1898	5th left intercostal space.	L. V. 1½-inch, apex.	8 hours.	Chloroform.	R.
9. Giordano. 1898	2d left intercostal space.	L. A. 4-5-inch. 4 stitches.	½ hour.	None.	D. Death on 19th day from empyema; abscesses right lung.
10. Nicolai. 1899	4th left intercostal space, midway between margin of sternum and nipple.	R. V.	1½ hours,	Yes.	D. Death after 12 hours.
11. Tuzzi	4th left intercostal space.	2 wounds; 1 non-penetrating.	.....	None.	D. Death on 22d day from empyema. Pericarditis.
12. Longo	5th intercostal space (left), 2-5 inch internal to nipple.	L. V. 3 stitches.	At once.	None.	D. Death in 15 minutes.
13. Ramoni	At 3d left cartilage, 4-5 inch from sternum.	R. V. 2 wounds; 1 non-penetrating. 4 stitches.	.....	None.	R.
14. Marion. 1899	Shot through breast.	Sutures.	.....	.....	D.
15. Rosa. 1899	5th intercostal space.	L. V. 3-5-inch. Not certain it penatrated ventricle.	.....	None,	R.
16. Horodynski. 1899	.....	R. V. 1½ c.m. long.	.....	.....	D.
17. Maliszewski. 1899	.....	.....	.....	.....	D.
18. Maliszewski. 1899	.....	.....	.....	.....	D.
19. Bufnoir. 1899	6th left intercostal space.	R. V. Gunshot. .22-calibre.	.....	.....	D. Necropsy showed perforation of ventricle and the anterior opening only had been sutured.
20. Pagenstecher. 1899	4th left intercostal space beneath the nipple.	L. V. Near apex; 2 stitches.	16 hours.	None.	R.
21. Nanu. 1900	3d intercostal space, 4 c.m. from edge of sternum.	R. V. 2 c.m. long. 2 interrupted sutures.	.....	.....	D. on 5th day from infection of pericardium and pleura.
22. Maselli. 1900	Below and internal to left nipple, cutting 6th rib.	L. V. Near apex. 2 stitches.	1½ hours.	.....	D. in 12 hours.
23. Fontan. 1990	Six wounds with scissors between 3d and 7th ribs in cardiac region.	L. V, 12 m.m. long. Continuous catgut sutures. 3 stitches.	6 hours.	Chloroform.	R.
24. Nietert. 1901	.....	R. V. penetrated; 3 silk sutures.	.....	.....	D. after 36 hours.
25. Vaughan. 1901	5th left costal cartilage divided.	L. V. 2½ c.m. long. Continuous silk sutures. 7 stitches.	¾ hour.	Ether.	D. on table from hemorrhage about completion of operation.
26. Nietert. 1901	Left of sternum.	L. V. Not sure cavity was penetrated; 2 sutures.	.....	.....	R.

tis; 1 empyema and abscess of right lung, and 1 bronchopneumonia—7 cases with infection, all of which were fatal except the 2 cases of empyema only.

The urgency of the symptoms and the necessity for prompt and rapid action often prevent the observance of proper aseptic precautions—a fact which probably accounts for the frequency of infection.

Conclusions.—A review of these cases justifies the following conclusions:

1. The time has arrived when a wound of the heart should be operated on with as little hesitation as a wound of the brain, with the expectation under corresponding conditions of getting equally good results. The mortality must inevitably be high—not from the operation but from the injury—especially if all cases including desperate ones be undertaken. Selection of cases who have survived five or more hours after receiving the wound would give a good percentage of recoveries, but such selection is not to be recommended.

2. In all cases of wounds in the region of the heart, with symptoms threatening life, an exploratory operation should be done by making an osteoplastic flap by dividing the fourth and fifth costal cartilages at their attachments to the sternum and the ribs about one inch external to their attachment to the cartilage, somewhat according to the method of Roberts. This flap turned up as a door on a hinge gives a good view of the pericardium and can easily be enlarged upward if more room is required.

3. While early and speedy operation is often essential to success, yet the importance of asepsis cannot be too strongly emphasized on account of the great danger of pericarditis and empyema. If there has been much hemorrhage a quantity of physiological salt solution, approximately equal in amount to the blood lost, should be injected into a vein while the surgeon is operating on the heart, if it has not been done sooner.

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WHEN AND HOW TO INTRODUCE THE STOMACH-TUBE.

BY MARK I. KNAPP, M.D.,

OF NEW YORK;

ATTENDING PHYSICIAN, EAST SIDE DISPENSARY; DEPARTMENT OF DISEASES OF THE STOMACH.

IN affections of the stomach the obtaining and examining of the contents of the stomach is the *sine qua non.* No matter how large our experience is, the microscopical and chemical examination of the stomach-contents is absolutely necessary for a correct diagnosis and a negative result of our efforts is as valuable as a positive one. And let me say here, in parenthesis, anticipating my reports on the subject, that the microscopical examination of the test-meal is at least just as important as the chemical one, if not superseding it. We may well understand the condition of the consulting patient and probably our errors as to quality may diminish with our experience, yet quantity cannot be imagined. To be clearer, we may well and correctly adjudge all symptoms complained of as ascribable to a condition of hypochlorhydria, yet how far this condition has gone cannot be estimated; therefore to satisfy both patients and ourselves, a quantitative analysis must be made.

Recognizing the necessity for examining the stomach-contents, the question arises, Are there any objections and contra-indications to the use of the tube, and, further, how are we to introduce it? Objections and contra-indications to the use of the stomach-tube are given in the text-books, almost anything being considered a check—diseases of the heart, diseases of the lungs, diseases of the aorta, general diseases, pregnancy, etc. Why? This is not explained. Why should a soft-rubber tube not be allowed to pass the esophagus, while a bit of bread, with its ragged and pointed ends, is granted this precious privilege?

Objections to its entering the gullet might be raised on three points: (1) because of its producing pressure; (2) because of its diameter, and (3) because of possible injury to the soft parts. Can any one imagine a soft, readily-yielding rubber tube being guilty of such a heinous crime? Do we not know from our successful experience with the soft-rubber tube in other parts of the body that the very reason for using soft-rubber tubing is that it has been convincingly demonstrating itself inoffensive and incapable of causing physical injury? The very reason for using soft-rubber tubing is because it readily and meekly adapts itself to its surroundings, flattening itself whenever other progress is impossible, taking—possibly involuntarily—the only course open to it, twisting and turning whenever demed wise to reach its destination and stops short only when further progress is absolutely barred—qualifications and virtues that many of us might emulate with profit.

It seems to me, after quite a large experience, that when there are no strictures anywhere between the mouth and past the cardia there are no objections or contra-indications to the introducing of the soft-rubber stomach-tube; in order to determine the existence of a stricture the invasion of the esophagus is absolutely essential. Ulcus œsophagi, a disease which, by the way, exists quite frequently, might contra-indicate the introduction of the tube, but not because the tube might penetrate, but because of its gliding over the raw and highly-sensitive spot. All objections and contra-indications stated, except those just now mentioned, are theoretical. The vitality of the patient can in no way suffer if the tube is introduced skilfully and by means of the stomach-tube director invented by myself, rapidity and safety, even by a novice can easily be acquired. I have introduced the stomach-tube with decided benefit

even in the last stages of tuberculosis, nay, even in the much-dreaded ulcer of the stomach and in advanced heart disease. Boas reports (cited by Hemmeter) having introduced the tube with success in cases of pregnancy, typhoid fever, and aortic regurgitation, with favorable results. Why should a soft-rubber tube be harmful? It certainly cannot cut nor cause any abrasions and if not introduced into the larynx, a feat sometimes accomplished, the tube, if not hard—and this it should never be—will readily yield to any pressure that any nearby tumor, aneurism not excepted, might cause. There are some men who, do what they may, cannot introduce the tube. But such men, unskilful in the handling of the tube although otherwise very creditable to our profession, should simply abstain from this practice, unless with the aid of my director. As a general rule, I might state that so long as the patient can swallow hard substances, such as meat and bread, without inconvenience there exists no contraindication to the introduction of the tube.

The stomach-tube must be of soft rubber. If the regulation stomach-tube is not at hand any soft-rubber tubing of proper diameter and length may be used. One can make his own stomach-tube from ordinary soft-rubber tubing by cutting off the desired length, cutting the holes that he desires, smoothening the holes thus cut out with a red hot glass rod and washing off the sticky rubber with chloroform. The old-fashioned hard tube, with all its actual terrors, is or should be a thing of the past. The use of any directing rod within the lumen of the tube must be condemned even if advocated by such men as Penzoldt. Even the introduction of the sound should invariably be preceded by the introduction of the soft tube.

The next question is how to reach the stomach. Before introducing the tube a few minor details have to be taken into consideration. The diameter of the tube may vary from the size of an ordinary catheter to about ⅜ of an inch. I usually use two sizes in the same patient when seen for the first time—a small one giving less of the choking sensation first, when going into the fasting stomach—in order to accustom the patient to it—and a larger tube when aspirating the test-meal. By this diplomatic move the patient is somewhat at ease when the test-meal is to be aspirated; as a mater of fact the full stomach cannot bear the tube with the same degree of tolerance as the fasting stomach. The length of the tube should be about 28 inches, from 20 to 22 inches being the length between the incisor teeth and the cardia, according to the stature of the patient. A ptotic stomach will naturally require a longer tube. I like the method in which the proximal end of the tube is connected by a piece of glass tubing to another piece of soft rubber tubing. This glass rod permits us to see the quality and nature of the aspirated matter before it goes into the pear-shaped rubber bulb, a fact which will be well appreciated by the physician, as very often blood is seen through the glass tube, a signal that the tube should be instantly withdrawn. This appearance of blood need cause no alarm nor apprehension, as it is caused in most instances, by the patient straining; yet on seeing it we should be admonished to withdraw the tube. The other points to be considered are not to soil the patient nor soil ourselves. For that reason the patient's clothing is protected by tucking a sufficiently broad towel behind the shirt or waist collar and if the patient is a woman turn up the skirt of her dress. Anything savoring of or suggesting surgery should be sedulously avoided; for that reason I do not like the rubber apron on the patient or Turk's rubber pocket underneath the chin. The physician may protect himself by wearing a white gown, but one very soon learns to dispense also with that if the tube be introduced in the manner I am about to describe.

The patient is seated in an ordinary chair—specially constructed chairs are not required—and before attempting to introduce the tube the patient is told what is wanted. We demonstrate to the patient the absolute impossibility of doing any harm, trying to convince him that a soft tube could not possibly hurt. We likewise must urge the patient to keep on breathing, for, as a rule, he momentarily suspends respiration and the consequence is that he becomes cyanotic—a thing which is liable to embarrass and frighten the inexperienced physician. The choking sensation which the patient feels must be explained on the ground that it is something unusual and he must be told that he will soon be able to introduce the tube himself. We must likewise warn the patient not to bite on the tube as it would prolong the procedure, although closing the lips is of advantage in introducing the tube. False teeth must be removed. The patient is given a pus basin or something similar and is told to hold this with both hands under the chin. This has a double purpose. It catches saliva or vomit and busies the hands of the patient, who otherwise is very apt to reach for the tube.

The patient is now ready. The physician stands at the right side, putting his left arm around the back of the patient's neck. In this way we accomplish two very important things. First, our arm gives the patient an agreeable support to his back and, secondly, with our arm around the back of his neck we have the most robust patient entirely under our physical control. We then attempt to introduce the tube which has previously been immersed in water—no other lubricant is necessary. With our left arm around the back of the patient's neck we hold the proximal end of the tube between the thumb and index of the left hand—the tube running through the palm of this hand and the opening of the tube away from us This left hand is kept close to the patient's mouth. The tube, held this way, insures us against any of the stomach-contents spurting on us. The distal end of the tube—that part which goes into the stomach—is now taken between the thumb and index fingers of the right

hand, in the manner in which we hold a pen, and is introduced into the patient's mouth, which must not be opened any wider than is absolutely necessary, letting the tube pass all the time between the flexed third and fourth fingers of the left hand. The object of this last procedure is to limit the side motions of the soft tube and prevent kinking; it gives a certain degree of stiffness to the soft tube. As soon as we believe the tube to have reached the posterior pharyngeal wall we tell the patient to swallow and keep on breathing deeply. The tube is now fed into the stomach, the tube still passing between the third and fourth fingers of the left hand. It is not necessary to have the patient protrude his tongue or put our finger, as a guide, into the patient's mouth. The cyanosis of the patient, already mentioned, need cause no alarm as it is due only to a momentary cessation of breathing caused by the effort to expel the tube, in which effort the patient might succeed did we not hold the tube with the right hand.

This is my usual way of introducing the stomach tube. Whenever this method fails, and this happens very seldom, I use my stomach-tube director, which was described originally in the *Medical Record,* Aug. 29, 1896, and again in No. 24 of the *Berliner klinische Wochenschrift* of last year. That cases occur every now and then where it is impossible to introduce the stomach-tube ordinarily is a fact admitted by Riegel, Fleiner, Boas, Ewald and others.

The advantages of the instrument are two in number—it may be used as a director and it enables us to entirely dispense with the voluntary cooperation of the patient. As a director it absolutely prevents the stomach-tube from going anywhere else but into the esophagus, thus excluding the possibility of its entering the larynx. All that is to be done to insure safety is to bring the director with the tube inserted well back to the posterior pharyngeal wall, and to push down the tube with the left hand. The time required for arranging the director and getting the stomach-tube into the stomach should hardly exceed one minute. As this director dispenses with the cooperation of the patient, its utility in children, nervous patients, in the insane, and in attempted suicide is apparent

In ordinary cases the director could be removed as soon as the stomach-tube is about one inch beyond the epiglottis; *i. e.*, as soon as the sensitive parts of the fauces, pharynx and epiglottis are passed. But in cases of attempted suicide, the director must be left in the mouth during the whole washing, when it acts at once as mouth-gag, tongue-depressor, and director.

Have the aspirating rubber ball conveniently at hand and just as soon as the tube is in the stomach catch hold of the aspirating ball with the free right hand and after compressing it connect it with the stomach-tube. All this time the left hand remains busy holding the proximal end of the tube; the getting hold of the aspirator, the adjusting and connecting it must all be done quite rapidly with the right hand only. In removing the tube from the stomach we again have the tube pass between the third and fourth fingers of the left hand, being very careful to catch the stomach end of the tube. If we merely pull the tube out, the stomach end, as it comes out, will swing around and soil both ourselves and the patient.

136 East Seventy-eighth Street.

THE PATHOLOGY AND TREATMENT OF BILOCULAR STOMACH, WITH A REPORT OF TWO CASES.[1]

BY CHARLES GREENE CUMSTON, M.D.,

OF BOSTON, MASS.;

VICE-PRESIDENT OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS; HONORARY MEMBER OF THE SURGICAL SOCIETY OF BELGIUM, ETC.

WITHIN the last four years it has been my privilege to have under my care two patients with bilocular stomach, and I think, from the relative infrequency of these cases, and from the fact that surgery of the stomach is now seriously calling the attention of the surgeon, that no apology is necessary on my part for presenting before this learned body a few remarks on the pathology and the treatment of this interesting abnormal condition and recording somewhat in detail the histories of my two cases.

At the present time I believe it is generally admitted that bilocular stomach may be either congenital or acquired, but although the pathology of the acquired form is now fairly well understood there is a difference in opinion regarding the etiological factors of the congenital variety. That a congenital type of bilocular stomach does exist is certain, since this condition has been found in the fetus by Sandifort. Meckel, from the embryonal point of view, has given the explanation that this congenital defect must be regarded as the result of an insufficient development of the organ and that it is possible that the lamina which early in embryonal life form the stomach are undeveloped. It is also possible that this anomaly of the stomach results from the coalescence of half of the stomach wall and half of the intestine, which in this instance do not come together fully; or the mass from which the two stomach laminæ are derived does not undergo a complete division. In the *Journal of Anatomy and Physiology,* Vol. 17, is to be found a very comprehensive discussion as to the various possible ways in which a congenital bilocular stomach may arise, written by Roger Williams and entitled "Cases of Congenital Contraction of the Stomach, with Remarks." He bases his memoir on the observations made by many anatomists who have occasionally found a mild form of contraction in the middle of an otherwise normal stomach, but along with this another narrowing has been present which separated the antrum of the pylorus from the remainder of the stomach, in such a manner that the organ formed three pouches. These were easily demonstrated when

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the stomach was inflated. Since there also occasionally occurs a third narrowing arising in the region of the cardia, which according to Williams separates the greater cul-de-sac from the remainder of the stomach, according to this authority, it results that the organ may be divided into four sections by three strictures.

This explanation conforms with the opinion of physiologists, who assume that under normal conditions the stomach presents temporary contractions at the points named during the process of digestion, and who base these opinions on the results obtained from necropsies performed immediately after death, especially where this event occurred suddenly during the process of digestion and which demonstrated that the stomach presented two or three contractures. Now, inasmuch as the points where the strictures occur in congenital sacculated stomach are seated just at these places where physiological constrictions occur, Williams explains them as being exaggerations of the temporary physiological constrictions.

Rokitansky mentions as congenital defects of the stomach circular strictures at the cardiac or pyloric end of the organ and also, in rarer instances, stomachs which are divided into several compartments by rings of sclerotic tissue.

Lesshaft states that in some instances the stomach may take on the aspect of the small intestine and these strictures cannot be compensated for; some authors are of the opinion that they are due to a special development of the transverse muscular fibers. Mazzotti has recorded a case of a congenital bilocular stomach in a woman fifty years of age which in his opinion had been produced by an unusual development of the transverse muscular fibers in a certain point in the wall of the organ and which were the cause of the stricture. In another instance recorded by Saake, this authority was able to demonstrate the congenital origin of the stricture of the stomach by dissecting out two abnormally developed bundles of muscle which were transverse in direction and, according to this authority, demonstrates the physiological torsion of the stomach during its development if this localized overgrowth of bands of muscle fibers be considered as a vice in formation during the embryonal period.

On account of the various segmentations which the human stomach may occasionally give rise to, Cruveilhier and other authorities went so far as to assume that there existed an analogy between the human stomach and that of the ruminantia, but on the other hand Hudson doubts, and in all probability he is quite justified in so doing, the theory that this deformity represents an atavistic tendency. He clearly demonstrates that such defects are never met with in the higher orders of monkeys and also he believes that there is a great difference between a division into two similar parts and the highly differentiated stomach of the ruminating animals.

In 1882, Carrington presented three specimens of congenital bilocular stomach to the Pathological Society of London and he discussed the question as to the possibility of the condition being produced by an abscess during fetal life, which proposition he advanced from the fact that abscess of the stomach walls had been met with in the newly-born. He quoted a case observed by Goodhart in which a child had died of an abscess of the stomach thirty hours after birth, having hematemesis for a symptom.

Guillemot traces the etiology of congenital bilocular stomach to an abnormal development in the arterial supply to the organ. This is frequently observed and results in a separate blood-supply to each part of the stomach.

In the case of an acquired bilocular stomach several etiological factors are to be considered and first of all I would mention gastric ulcer, which, as we all know, may undergo the process of repair with the formation of a linear cicatrix involving part of the circumference of the stomach, and according to Grünfeld bilocular stomach represents thirty per cent. of those changes of shape of the organ due to an extensive process of cicatrization. I would add, however, that this author in his extensive statistics included the very mildest instances of circular contraction.

Lunnemann believes that a large majority of cases of gastric ulcer heal by a process of cicatrization, and if the ulcer has only produced a very limited defect in the wall of the stomach we then meet the characteristic white, flat, radiating cicatrices which finally result in the contraction of the mucous membrane in the neighborhood, drawing it toward the former lesion and producing radiating folds of the gastric mucosa. If, on the other hand, extensive ulcers undergo cicatrization prior to the occurrence of erosions or perforation of the blood-vessels, the result will be extensive changes in the shape of the stomach and if the ulcer was situated toward the middle of the organ the resulting cicatricial contraction will produce the characteristic hour-glass stomach.

In these cases the stomach forms two sacs which communicate the one with the other by a narrow orifice, and the only essential condition for the development of a typical bilocular stomach following an ulcer of the organ is that the site of the causative pathological process should be about at the middle of the lesser or larger curvature and extend more or less over the anterior or posterior wall of the organ. Other conditions that should be taken into consideration are the long duration of the ulcer, its slow cicatrization or its transverse extension in relation to the longitudinal axis of the organ. It should also be borne in mind that during the process of cicatrization of gastric ulcers extensive adhesions may be developed between the stomach and the neighboring viscera.

Rasmussen has called attention to what he terms a pressure sulcus in the etiology of acquired bilocular stomach and establishes a direct

causative relationship between the conditions and also a connection between gastric ulcer and pressure sulcus, considering the former lesion as an intermediary link for the formation of the hour-glass stomach. This author is at variance with the general opinion that strictures of the stomach which are observed following the presence of gastric ulcer are only due to the cicatricial contraction of the ulcer and this same authority asserts that in many cases the pressure sulcus of the liver continues over the stomach following a rather oblique direction downward from the middle of the lesser curvature or a little nearer the pylorus, toward the larger curvature, where a distinct impression can be found.

Now from the fact that Rasmussen found cicatricial tissue following gastric ulcer in the middle of the lesser curvature or somewhat nearer the end of the pylorus, that is to say, just at the point where the pressure sulcus is situated, in the large majority of cases, and since he was also able to demonstrate its presence in all cases of cicatrices of gastric ulcer after his attention was called to this sulcus, he is of the opinion that the latter sulcus represented an important etiological factor of gastric ulcer which consequently would have to be considered as the result of pressure necrosis.

According to the same authority this pressure sulcus of the stomach is capable of directly producing more or less well developed strictures of the organ. When large cicatrices are absent, Williams has denied that the production of bilocular stomach could result from the use of tight-lacing in the female for the simple reason that were this the case this condition would be far more frequently encountered. Hirsch, while not completely repudiating the theories of Rasmussen, believes that although occasionally slight anomalies in the shape of the stomach may be occasioned by pressure from the left costal border, and that over those regions of the stomach which are subject to pressure from corsets a certain disposition for the formation of gastric ulcer is quite liable to be created, still this mode of origin appears rather improbable when we consider the advanced degree of stricture formation in the stomach where the stenosis may have contracted down to such degree as only to admit of the passage of a finger or a pencil. The very large amount of cicatricial contraction resulting from the larger and more extensive gastric ulcers is quite sufficient to explain the etiology of a large number of cases of acquired bilocular stomach.

Bilocular stomach may be produced by a corrosion of the gastric mucous membrane from the ingestion of acids or alkalies, but the only case that I am aware of in which operation was undertaken for its relief is the one recorded by Klein. The patient was a female, twenty-seven years old, who had tried to commit suicide by swallowing concentrated hydrochloric acid and whose stomach was immediately washed out when she was taken to the hospital. She vomited some blood for a few days, but was discharged at the end of a fortnight, at which time she could swallow small pieces of meat. This improvement did not continue long and one afternoon she vomited the food taken. The treatment then consisted in passing bougies. The condition, however, getting worse, it was decided to operate upon the supposition that there was a stenosis of the pylorus. When the peritoneal cavity was opened, a few friable adhesions were found between the stomach and the peritoneum, but the stenosis was near the cardia about three finger-breadths from the pylorus. It was a very fibrous stricture giving rise to a typical hour-glass stomach, the stenosis being especially marked on the larger curvature. By invagination the lumen of the stricture would hardly admit the tip of the finger. The muscular walls of the cardiac region of the stomach had undergone considerable hypertrophy. As the duodenum could be easily brought over to the cardiac region of the stomach gastroduodenostomy was successfully performed.

Rudnew has recently called attention to syphilitic lesions of the stomach. They are produced either in consequence of the primary changes taking place in the gastric mucosa or from a pathological process arising in the serous membrane. Contraction of the newly-formed granulation tissue produces after a certain time a great diversity of deformities of the stomach, among which may be mentioned circular bands of fibrous tissue giving rise to a bilocular stomach or even a plurilocular variety. Einhorn distinguishes three forms of syphilitic affections of the stomach: (1) Syphilitic gastric ulcer; (2) syphilitic neoplasms of the stomach, and (3) syphilitic stenosis of the stomach.

I personally should admit without any hesitation that syphilis is probably an etiological factor in many cases of bilocular stomach and stricture of the pylorus, because other experiences in general abdominal surgery have convinced me that this potent and versatile poison is responsible for a large number of heretofore unknown surgical affections of the abdominal and thoracic viscera, but unfortunately up to the present time only a few cases of bilocular stomach can be with certainty traced to syphilis.

Carcinomatous affections of the stomach are quite liable to produce the bilocular variety and it may be assumed with a fair amount of certainty that cancer frequently causes this condition, which is easily understood when we recollect the great tendency of chronic gastric ulcer to undergo carcinomatous transformation. It is probable that when a bilocular stomach results from carcinoma of the organ the neoplasm is of the scirrhus variety and by contraction produces a stricture similar to that produced by cicatricial tissue.

In considering the pathology of bilocular stomach, we must discriminate between the congenital and acquired forms. The congenital form is to be distinguished from the latter in that it

is usually free from adhesions with the neighboring organs and that the stricture is longer and is not formed of cicatricial tissue, but of the normal structures forming the walls of the organ. The congenital variety recalls very closely the stomach of various rodents, such as the mouse, and where several pouches are found they closely resemble the stomach of the ruminantia, and since many do not have the shape of the hour-glass stomach, properly speaking, the term "segmented stomach" would, I believe, be far more appropriate.

In the congenital varieties, the cardiac part of the stomach is usually larger than the pyloric. The strictured part connecting the two pouches is glossy white, and as I have already mentioned is longer than in the acquired variety. Microscopically, no cicatricial formation can be discovered and only atrophy of the gastric mucosa, more particularly of the glandular tubes, can be seen.

Gastric ulcer has been met with in congenital bilocular stomach and has been situated at the site of the stricture, but these ulcers are secondary in origin and are probably produced by the pressure of the food passing through the strictured part of the organ.

As most gastric ulcers develop in the lesser curvature, that type where the sulcus of the stricture runs from the greater curvature to the smaller is by far more frequent. The result is that the stomach is divided into two fairly equal cavities which communicate at the lesser curvature, diverging from each other toward the greater curvature. The position of the contracting cicatrix will, of course, in many cases divide the stomach unequally and in several instances the cardiac pouch has been found much larger than the pyloric one, but it is a question in this case whether the stomach is divided into two unequal parts or whether the cardiac pouch has not become dilated by the accumulation of food after stenosis had taken place or for some reason before the cicatrix had formed. In this dilatation, which is such a natural sequence of stricture and which corresponds so closely with what takes place in stenosis of the pylorus, it is probable that in bilocular stomach the cardiac pouch becomes increased in dimensions by the mechanical dilatation produced by food.

This condition is, however, not always met with and in the beginning the cardiac pouch will often present a considerable thickening of its muscular coat due to an hypertrophy from overwork. The explanation is simple: because of the increased difficulty in the passage of the food the cardiac pouch is put upon a strain and hypertrophy from overwork is the natural outcome. Lunnemann found that the strata of circular muscles measured from two to two and one-half millimeters in thickness, while in the pyloric pouch it measured from only one to one and one-half millimeters. This amount of hypertrophy is absolutely essential to life.

It is worthy of note that the cardiac pouch frequently gives rise to serious trouble, due to a dilatation that results from an atrophy of its walls from inactivity and to muscular insufficiency. In some reported cases it was seen and could also be demonstrated clinically that the second stomach was dilated. A classical example is the case reported by Langerhans of a man, forty-seven years old, who had been afflicted with disturbances of the stomach for a number of years. The necropsy showed that the stomach was divided into two pouches, the pyloric pouch being very much larger than the cardiac. Such a marked degree of atrophy can be explained from the fact that the cicatricial tissue interrupted the vascular and nervous supply of the stomach, the result being that the movement of the muscular coat exhausted itself at the point of cicatricial contraction and was no longer able to transmit its activity to the second pouch which produced an atrophy from inactivity, because the food being forced into the second stomach remained in the latter for some time and was the cause of a marked gastrectasis.

The various conditions which occasion the pathological symptoms are consequently based (1) on the fact that the cardiac stomach is smaller than the pyloric; (2) that the contracting cicatrix draws the greater curvature upward, forcing the cardiac pouch to raise the food to the level of the cicatricial opening and being much easier exhausted at this high point; (3) that the stomach is in a state of ectasis, and (4) the communication between the pouches is often times reduced to a very narrow canal. In reported cases the lumen of the channel connecting the two pouches has been found to vary from the size of a lead pencil to an opening sufficiently large to admit the passage of four fingers.

When the lumen of the stenosed part is very small, the patient will soon die from inanition, and this condition becomes all the more serious owing to the fact that the pyloric pouch undergoes a torsion on its axis, being partially fixed between the cicatrix and duodenum.

Microscopically the cicatrix of a gastric ulcer which has produced a stenosis of the stomach shows passive changes, distortion of the gland-tubes from displacement, as well as active and luxuriant tissue proliferation which is most pronounced in the immediate vicinity of the cicatricial tissue, but not in the cicatrices themselves. Lunnemann found a considerable increase of glandular bodies, both at the margins of the cicatrix and in more distant parts of the stomach walls where the mucosa was otherwise perfectly normal, in a case of bilocular stomach, and considers this as the expression of the vascular hyperemia due to the ulcerative process. In other cases the mucous membrane has been found normal in the region of the ulcer, excepting in those instances where a carcinomatous infiltration of the tissues was present. The remainder of the gastric mucous membrane in most cases usually reveals the microscopical characters of a glandular gastritis.

Hauser, whose competency in the matter of pathology of the stomach is without question, has had occasion to make microscopical studies of the cicatricial tissue taken from bilocular stomachs, and he has found that it is accompanied by an enormous increase and proliferation of the glands of the mucosa which has become contracted, and this extends over the entire cicatrix and somewhat beyond it. A similar growth of glands is also met with in the mucous walls of very extensive chronic gastric ulcer which never completely heals. Beside the luxuriant growth of glands a change in their epithelial lining occurs at the same time, the normal epithelium of the pepsin glands being replaced by either cylindrical or cubical epithelium. From a very careful study Hauser concluded that the luxuriant growth of glandular structures appearing at the time of cicatrization of chronic gastric ulcer is independent of any secretory influence and that these results arise from the combined effect of an increased supply of nourishment during the process of ulceration and cicatrization, as well as from a disappearance of the inflammatory exudate which surrounds the glands, because by this means the production of the epithelium of the glands is increased and at the same time the physiological resistance of the neighboring tissue is weakened. The passive torsion of the tubes of the glands contributes toward their increase and development while the continuation of the growth to an unlimited degree is prevented by the progressive cicatrization and condensation of this tissue and, finally, the glands disappear. On the other hand, if solid cicatrization does not take place an exuberant glandular growth continues and the ultimate outcome will be a transformation into carcinoma. Thus, between a carcinomatous change of the epithelium of the glandular elements of the gastric mucosa, as well as an atypical abundant growth of the glands themselves which occurs every time an ulcer of the stomach undergoes cicatrization, there only exists a *difference in degree* and Hauser has proven the well-known clinical fact that a gastric ulcer may and often does transform into carcinoma.

Adhesions with the surrounding viscera are frequently met with in cases of bilocular stomach and are usually due to the process of cicatrization of a former ulcer of the organ. In some instances they are very extensive and bind the stomach to the liver, pancreas or the anterior abdominal wall.

When the opening between the two pouches in bilocular stomach is sufficiently large the patient may be free from any symptom of a gastric lesion and persons may attain quite an advanced age and die from some other cause, so that the pathological condition is only discovered at autopsy and it is probably that if all the necropsy records of the large hospitals throughout the world could be consulted a very considerable number of both congenital and acquired bilocular stomachs could be found. Since a congenital hour-glass stomach predisposes its owner to the development of an ulcer of that organ, it may easily happen that this congenital defect does not present any symptoms in early life and the patient will only present gastric disorders after an ulcer has formed. Such an instance has been put on record by Sievers in which a patient, twenty-six years of age, had been well up to that time, when a gastric ulcer developed and caused death from perforation.

In those cases where a bilocular stomach has been acquired, symptoms arise which can be clinically divided into two groups. The first are simply those to which a gastric ulcer gives rise; after the lesion has existed for many years, or after several recurrences have taken place, the second group of symptoms appears upon the scene and indicates the presence of bilocular stomach.

These symptoms are especially produced by a retention of the stomach contents, just as in the case of pyloric stenosis. Food, and more especially solids, such as bread and meat, remains lodged in the cardiac pouch and there produces a sensation of marked distention. After a meal, vomiting may set in immediately or in other instances it may occur in the early morning before breakfast. Not infrequently the vomitus will be found to contain food which has been taken one or several days before, a significant fact, because it indicates a stenosis somewhere in the stomach. Foul-smelling eructations also occur and simply indicate decomposition of food going on in the stomach. In most cases the appetite remains good and, as a rule, a liquid diet will not give rise to these symptoms.

The patients suffer from great thirst, and it may also happen that in this stage of the disease hematemesis, which may not have occurred for years, suddenly makes its appearance, in some cases so violently that the patient dies. As the affection progresses, gastric pain becomes unbearable and for this reason the patients refuse food, the result being that the loss of flesh is great and the patient takes on all the appearance of a malignant cachexia which leads the surgeon to the erroneous diagnosis of malignant disease of the stomach.

A very important symptom is a feeling of fulness in the stomach even after ingestion of small quantities of food and this symptom is only relieved after vomiting has occurred. Some patients describe their sensation as if the stomach became contracted and they may also suffer from pains during peristaltic movements of the organ which occur a few hours after digestion and which may finally become continuous as the affection becomes more marked. This symptom depends upon the condition of the cardiac pouch and of the kind of stenosis present. Beginning atrophy and muscular relaxation of the cardiac pouch give rise to daily vomiting.

Although the present methods of clinical examination have not attained that pefection by which the presence of a bilocular stomach can

be made out with any degree of certainty, it is nevertheless possible to diagnose this condition in quite a number of cases if various methods are combined. There is no doubt in my mind but that many diagnoses of dilatation of the stomach from pyloric stenosis or diverticula of the stomach or of the esophagus have been made, when in reality the true condition was a bilocular stomach; and even when the abdomen has been opened this condition may be easily overlooked when the cardiac pouch is small and situated near the diaphragm along with the cicatrix.

Simple inspection of the abdomen will rarely aid us in diagnosis, but we may be able to obtain some idea of the condition if the stomach is artificially inflated. If the abdominal walls are thin and flabby, and if the stenosis is not sufficiently narrow to prevent the passage of gas and water through it, it is easy to make the stenosis plainly visible by inflating the stomach.

It should be borne in mind that in those patients in whom the stenosis is very marked the cardiac pouch alone will become inflated. It may also happen that the gas remaining in the cardiac pouch will show the convexity of the stomach above the umbilicus, but the pyloric portion containing fluid will give rise to a succussion sound below the umbilicus, so that under these circumstances a differential diagnosis must be made between dilatation of the intestine and bilocular stomach. It is also important that the outline of the inflated stomach on the right remains in the median line or somewhat to the left of it, which does not correspond with the position of the pylorus. Peristaltic movements in the gastric region are of no value in the diagnosis of the affection we are considering. By palpation much can be ascertained. The epigastric and umbilical regions are often painful on pressure and not infrequently a resisting mass can be made out, above which a high pitch percussion sound may be elicited, while on both sides of this high pitched area of percussion a tympanitic sound is obtained. In some cases a tumor may be palpated in the left hypochondrium varying in size from one case to another, having indistinct outlines and being painful on pressure. This tumor may be due to cicatricial tissue in the bilocular stomach or to muscular spasms of the organ.

Much importance has been attributed to the splashing sound which is frequently met with in the region of the umbilicus, but it is in no way characteristic of bilocular stomach and simply indicates that the organ is dilated. Jaboulay has described a diagnostic sign which is different. In his case the splashing sound continued below the umbilicus after the stomach had been filled with water, while it disappeared in the upper epigastric region, that is to say, in the cardiac pouch. Tympanitic sounds remained in the pyloric pouch while in the cardiac pouch they became dull. This interesting phenomenon should be carefully looked for, but naturally if taken alone is quite insufficient for a diagnosis.

We should never neglect to try to elicit the splashing sound while the stomach is empty, care being taken to remove all liquid from the organ by the stomach-tube. Now, if this has been done and a splashing sound is obtained, it indicates in all probability that we are dealing with a bilocular stomach from the fact that the pyloric pouch has not been emptied by the siphon and contains liquids and gas. If a bilocular stomach be washed out, the water which has been introduced may not return, or a lesser amount than what was introduced runs back, a fact which can be easily explained from the liquid in whole or in part passing through the stricture and remaining in the pyloric pouch.

The use of the X-ray has been applied in the diagnosis of gastric diseases, especially by Jaworsky, and by combining the usual methods of examining the stomach he was able to diagnose several cases of bilocular stomach.

The chemistry of the stomach will also aid us in the diagnosis and should never be neglected, for in the majority of cases examination of the gastric contents showed that there existed entire absence of free hydrochloric acid or only traces of it. The acids of fermentation have been present in some cases. In cases where the gastric ulcer which had given rise to bilocular stomach was comparatively recent there was hyperacidity of the gastric contents. The absence of free hydrochloric acid and the presence of the acids of fermentation in the majority of cases of bilocular stomach is to be explained by the existence of a chronic gastritis. This very circumstance is rather surprising if one accepts the usual views held forth, that hyperacidity is an important factor in the formation of ulcerative processes of the stomach. It may be that the absence of free hydrochloric acid with the presence of the acids of fermentation will greatly aid in the diagnosis of bilocular stomach, but on this point more researches will have to be made, and at present it cannot be said to be of positive value.

As to the differential diagnosis, stenosis of the duodenum should be considered. The duodenum above the stenosis is frequently dilated to such an enormous degree that it may resemble a second stomach. This dilatation may in some instances be diagnosed before opening the abdomen, particularly in those cases where bile and pancreatic juice can be demonstrated in the gastric contents. In stenosis of the duodenum the pylorus may still carry on its normal functions, in which case the pylorus represents the orifice between the stomach and duodenum, which on superficial examination may have all the appearances of a bilocular stomach. When there is pyloric insufficiency the stomach and duodenum form one vast pouch.

When the stenosis is limited and does not cause any marked impediment to the onward progress of food, the prognosis of bilocular stomach cannot be said to be serious, but in all cases where the stenosis is marked the outlook for the patient is most unfavorable unless an op-

eration is undertaken. Death will occur when the stenosis has arrived at such a degree that a torsion on its axis takes place. From what I have already said there are quite a number of cases of bilocular stomach which never receive medical or surgical treatment during life for the simple reason that a correct diagnosis has not been made, but as soon as the condition produces symptoms, the only proper treatment is operative. The same indications apply to bilocular stomach as they do for gastric ulcer or of carcinoma of the stomach, either for their radical cure or to alleviate the complications to which these various lesions give rise.

An operation should be undertaken when a patient presents continued pain, repeated vomiting and other dyspeptic disturbances or when symptoms, such as increasing emaciation and cachexia, make their appearance. Several operations have been recommended and performed for the relief of bilocular stomach or its cure. In the first place a resection of the stricture with suture of the two pouches has been recommended, the new opening thus obtained being sufficiently large to allow the easy onward progression of food. Along with resection, gastrorrhaphy may possibly be indicated if there is a very considerable degree of dilatation of the organ. A gastroplastic operation performed identically in the same manner as the Heinecke-Mikulicz operation for stenosis of the pylorus has given a number of very gratifying results. Gastrogastrostomy is also indicated and consists in making a free anastomosis between the cardiac and pyloric pouch immediately under the stenosis without dealing with the latter. Gastrojejunostomy and gastroduodenostomy have also their indications, as well as operative and non-operative gastrolysis, the latter operation being only indicated when the symptoms accompanying bilocular stomach are chiefly due to extensive perigastric adhesions, the stenosis being sufficiently patent as not to interfere with the process of digestion. Digital dilatation as recommended by Loreta for stenosis of the pylorus has been done at least on one occasion some years ago, but would appear to be a useless and irrational mode of treatment

Regarding indications for the various operative procedures already mentioned, I would say that the surgeon must not only be guided by the simplicity, security and speed of the operation and by the favorable results obtained, but he must also take into consideration the given case as the anatomical changes vary tremendously from one case to another and what I have already remarked in discussing the indications for operative treatment of carcinoma of the stomach at the Annual Meeting of the Massachusetts Medical Society last June will certainly apply to the operative treatment of bilocular stomach, namely, that *no operation can be decided upon before the abdomen has been opened and the condition of affairs thoroughly ascertained, and it is only after the surgeon has become perfectly familiar with the anatomical conditions present that he may select the operation the most applicable under the given circumstances.*

Take, for example, a case where a large area of the walls of the stomach has become bound down to the pancreas, the liver, spleen or other viscera, it is very evident that a dissection of the stenosis would be impracticable and to say the least a most dangerous proceeding. Excision of the entire stricture followed by gastrorrhaphy can only be undertaken in very rare cases and so far as I am aware no operator has up to the present time performed it for the cure of bilocular stomach because this method is more complicated than the others and promises no better results. Gastroplastic operations are not to be undertaken if the cicatrix at the pylorus or in the middle of the stomach is very extensive or if the greater part of the mucosa is ulcerated or has undergone cicatricial changes so that sutures would not hold. If, however, the stenosed portion of the organ is small and movable so that it can be resected, and if after this has been done there still remains enough normal stomach wall at the point of the resection to effect a communication by means of a Heinecke-Mikulicz operation, the result will be extremely gratifying if the cardiac pouch has not undergone too great a degree of atrophy. I am very well aware that there are some operators who have had poor results from this operation in bilocular stomach, but I nevertheless must confess that my experience with it in the case appended at the end of this paper has been most gratifying.

I presume that taking all things into consideration, the most generally applicable procedure, at least in a large majority of cases, is gastro-anastomosis according to Doyen's or Woelfer's methods. By these operations two very important points are gained, first, a wide communication between the cardiac and the pyloric pouches and, secondly, the dilated cardiac pouch is relieved of its very difficult part of propelling the stomach contents forward, because the fact that the anastomosis is situated low down renders the onward progress of the chyme easy. Gastro-anastomosis is, I believe, indicated in all difficult cases of bilocular stomach, especially when the stenosis is long and narrow and where cicatricial atrophy of the cardiac pouch has occurred and where there are a large number of adhesions. Compared with resection, gastro-anastomosis is superior in that it can be more rapidly performed, and compared with gastro-enterostomy it is, I believe, a more perfect operation, because it re-establishes the stomachal digestion in its entirety. Compared with a gastroplastic operation, it is more advantageous in that it creates a wider communication between the two pouches and that the operation is not performed at the site of the cicatricial tissue. The peristaltic movements of both pouches are brought into more intimate relation and, what should be particularly borne in mind, the value of gastro-anastomosis increases the nearer the stenosis is to the cardia, because resection of the stomach and gastro-enterostomy

cannot be carried out so easily when the conditions are such as those just named.

As every other operation, gastro-anastomosis has its limits of application. It cannot be undertaken in those cases where the pyloric pouch is so small that an opening cannot be made in absolutely sound tissue—that is to say, at a sufficient distance from the stenosis.

In all cases where the proper conditions for the performance of the first three methods described are not present or where the stenosis is embedded in adhesions binding it to the surrounding parts, gastrojejunostomy is indicated, principally because the area of cicatricial tissue is entirely avoided during the operation. Gastroduodenostomy is not a procedure that I believe can ever take the place of gastrojejunostomy in cases where the adhesions are thick and strong, because the duodenum and its mesentery are bound down posteriorly; but when the descending portion of the duodenum and the cardiac pouch of the stomach can be easily approximated, then I think that gastroduodenostomy is the operation of choice and far superior to any other.

Operative and unoperative gastrolysis have occasionally their indications. Operative gastrolysis should be carried out in such a manner that after the adhesions between the stomach and the adjacent organs have been broken down no raw surface should remain, and for this reason in order to have a successful result I believe that all adhesions should be tied off close to their base between two catgut ligatures and as much of the tissue should be resected as is possible. The use of the thermocautery in breaking up lesions and for the prevention of their recurrence is, I think, to be condemned.

Non-operative gastrolysis consists in frequently inflating the stomach, the object in view being to stretch or tear fresh adhesions that are formed between the stomach and the neighboring organs. This treatment has given one or two good results in cases where it was tried and may be resorted to when indications for its use are present.

Case I.—A female, aged forty-nine years, a cook by occupation, applied at my clinic at the Tremont Dispensary in October, 1900, with the following history: No hereditary affection could be discovered. At the age of twenty years she began to work as cook and a few years later developed what in all probability was a severe chlorosis. After a prolonged treatment, the patient's health began to improve and she remained fairly well for a year or two, when at the age of twenty-eight years she began to present gastric disturbances. These symptoms consisted in severe pain in the region of the stomach, particularly after the ingestion of solid food. This was followed by vomiting, the vomitus sometimes containing blood, but we could not discover in the patient's history any distinct description of a true hematemesis.

According to the patient's story, she suffered from her stomach off and on until the age of thirty-six or seven years, since which time the severe pain and vomiting have been almost completely absent, but within the last year another set of gastric symptoms have begun. At present the patient cannot retain any food. After each meal, within an hour or two the patient complains of a heavy feeling in the epigastrium and suddenly, after a minute or two of sharp pain, her food will be vomited spontaneously. The vomiting is really more like a regurgitation. As the patient had not retained much food during the last three months, she was extremely weak and emaciated. She had a straw yellow color of the integuments and with her drawn features presented, to all outward appearances a subject in an advanced condition of carcinomatous cachexia. Her normal body weight had been about 150 pounds, but the patient stated that in the last three months she had lost thirty-seven pounds. Her tongue was coated with a white fur, the mucous membrane of the mouth was dry and the patient was troubled by a constant thirst. A marked constipation had existed for many years. Appetite poor. Sleep fairly good. The patient is not troubled by headaches.

On inspection nothing special was noted. Palpation of the stomach in an empty condition gave rise to considerable pain. Insufflation of the stomach showed that the lower limits of the organ extended to the umbilicus. The distention caused great pain. By palpation I thought that I could make out a distinct mass situated in the middle of a line drawn from the umbilicus and right costal arch, consequently in the region of the gall-bladder.

The patient was ordered a test breakfast which showed free hydrochloric acid in the gastric contents with an absence of lactic or other acids of fermentation. Blood-examination showed hemoglobin, 7 per cent.; polynuclears, 77 per cent.; mononuclears, 22 per cent.; eosinophiles, 1 per cent.; no leucocytosis.

I endeavored to ascertain if Jaboulay's sign could be obtained in this case, but it was absent and my diagnosis wavered between a bilocular stomach, of which from my examination I had no evidence, and carcinoma of the stomach arising from a former gastric ulcer. The patient was advised to submit to an early operation, which was performed a few days later.

After the abdomen was opened in the median line it was found that the stomach was bound by a large number of adhesions to the omentum and transverse colon, while the pylorus was bound down to the gall-bladder; after carefully freeing the organ from the omentum, colon and gall-bladder it was found to be a bilocular stomach, the cardiac pouch being about twice as large as the pyloric. The connecting stenosed canal was extremely thick and hard. From the conditions present I decided that a gastroplastic operation was naturally out of the question and that resection, followed by gastrorrhaphy, was inapplicable on account of the unequal dimensions of the

pouches and also because of the apparent atrophy of the stomach walls, which probably would not allow the sutures to hold. Gastrogastrostomy was for the same reasons to be rejected. The omentum minus was torn through and a loop of jejunum was seized and sutured to the posterior wall of the stomach—in other words, a posterior gastroenterostomy was done, Doyen's method having been found impracticable in this case. The opening between the stomach and the intestine was about four centimeters long, the anastomosis being done with three layers of sutures of fine celluloid thread. The omentum minus was closed with fine catgut and the abdominal wound closed by two layers of catgut for peritoneum and fascia with silkwormgut for the skin. In the evening the temperature was 39°C., pulse 100. The patient had vomited little since the operation and had voided about 200 c.c. urine.

To make the history of this case short, I would say that the patient made a very good, though slow convalescence, being discharged about nine weeks later in a satisfactory condition.

I saw this patient six months after the operation, at which time she had gained eighteen pounds in weight and was beginning to have a fairly good digestion, most functional disturbances of the stomach having disappeared. She was still constipated, requiring nightly medicine in order to procure a movement on the following day.

The following case has already been published in the *New York Medical Journal,* December 9, 1899, but I will reproduce it on this occasion in order to make this paper more complete.

Case II.—Female, aged forty-seven years, was first seen in March, 1898. At that time she was complaining of a severe pain in the right side and in the epigastric region, and of occasional vomiting after eating. The patient was a thin, anemic subject, in a rather despondent condition of mind. Examination revealed what was believed to be a dilated stomach in a state of ptosis and a movable right kidney. On the supposition that this was a case of gastroptosis and gastrectasis, the symptoms of which were exaggerated by the presence of a very movable kidney, nephrapexy was performed a few weeks later, with the result that the pain in the right side was completely relieved, but the digestive symptoms continued quite as before.

In November, 1898, the patient was again seen, complaining of her stomach, and a more careful history of the digestive disturbances was obtained, a thing that should have been done in the first place, as the symptoms were far too marked to have been neglected as they were.

At the age of seventeen the patient had typhoid fever and had suffered ever since from what she called indigestion; but at about the age of twenty-six attacks of pain in the epigastric region and vomiting began to occur, and have been more or less constantly present ever since. The attacks of gastric pain occur more especially after a hearty meal, excessive bodily exercise, or mental fatigue, but at no time was any blood vomited or passed *per rectum.* The menses have always been regular and painless. Chronic constipation of severe grade has been present for many years, and the patient has frequent attacks of frontal neuralgia. The heart and lungs are normal. Analysis of the urine gave the following results: Specific gravity, 1016; total amount in twenty-four hours, 1,200 cubic centimeters; color pale; reaction slightly acid; urea, 25.5 grams to the liter. No albumin or sugar. Abdominal viscera, excepting the stomach, in apparently nomal condition.

I would here remark that the patient's father died at the age of fifty-one of some obscure stomach trouble, from which he had suffered for many years.

A dilated stomach had been diagnosticated when the patient was first seen, but we now suspected that the gastrectasis was quite probably due to a benign, or perhaps malignant, stricture of the pylorus, because by palpation a somewhat painful mass could be detected in the left hypochondriac region, which had not been noticed when the patient was examined in March. The splashing sound could be elicited, but auscultation over the back when the patient swallowed water only showed the characteristic normal *glou-glou* sound. When the stomach had been moderately distended with CO_2 its lower border was found at about a finger-breadth below the umbilicus. The lower half of the abdomen was retracted.

The vomitus obtained during an attack of pain was a yellow mucus with a decided acid reaction. The stomach was irrigated and a test breakfast, consisting of a cup of tea, one egg, and a roll, was ordered, and the stomach contents were withdrawn two hours later. They were found to be composed of fluid containing about twenty-five cubic centimeters of the roll. After filtering, the analysis showed a considerable amount of free hydrochloric acid and a complete absence of lactic acid.

An exploratory incision was advised and accepted. The stomach was irrigated morning and evening with a 1-1,000 solution of naphthol B for one week prior to the operation, which was done on December 2, 1898. An incision twelve centimeters long was made, beginning at the outer border of the rectus muscle, midway between the tip of the sternum and the umbilicus, and was carried obliquely downward on the left side. When the abdominal cavity was exposed the pylorus was examined and found perfectly normal. At about the junction of the lower with the middle third of the lesser curve of the stomach was found a strictured portion uniting a normal lower third with a dilated upper two-thirds of the viscus. The strictured portion was about seven centimeters wide and three centimeters long, and was united to the surrounding structures by a few tough adhesions. These were broken down by the finger and a few snips of the scissors and the part liberated.

After the stomach had been well drawn out through the abdominal incision, an incision was made on the anterior aspect of the viscus in the longitudinal axis of the strictured portion. The stenosed portion would allow the passage of three fingers. The incision was continued upward and downward for about four centimeters, and when completed measured about eleven centimeters. A Heineke-Mikulicz plastic operation, as devised for the pylorus, was done, and when completed the line of union was about eleven centimeters long.

The borders were brought together by fourteen interrupted fine silk sutures which were passed through the stomach wall, but *did not include the mucosa or the peritoneum.* The silk sutures were covered by bringing the peritoneum together with a Lembert's suture of fine catgut. The peritoneum, fasciæ, and muscles were sutured with fine catgut, the skin and fat being united with aluminum and bronze wire.

The after-treatment was simple and recovery was remarkably rapid. On the afternoon and evening following the operation the patient vomited clots of partially digested blood. The next morning she was feeling well; temperature, 100.4° F., pulse 92. Vomiting of blood occurred in the afternoon, but the quantity voided was small.

On the third morning following the operation the patient, who had been fed by enemata, was allowed to have champagne and crushed ice by teaspoonful every hour. Feeding *per os* was begun on the sixth day, and gradually solid food was substituted for a liquid diet, so that just three weeks after the operation the patient was taking meat. The patient was discharged well on January 10, 1899.

I saw the patient this summer (1901), and found that she has remained in excellent health and that the functions of her stomach are apparently perfect.

871 Beacon Street.

SOME UNUSUAL LOCALIZATIONS OF TUBERCULOSIS.[1]

BY FREDERICK A. BALDWIN, M.D.,
OF ANN ARBOR, MICH;
ASSISTANT IN PATHOLOGY, UNIVERSITY OF MICHIGAN.

WARTHIN made a report in the MEDICAL NEWS of May 6, 1899, of some unusual localizations of tuberculosis which had come under his observation. He reported one case in which tuberculosis and sarcoma were co-existent in a wart of the skin, two cases of tuberculosis and carcinoma co-existent in the mammary gland, one case of primary tuberculosis of the nose, one case of primary tuberculosis of the lobe of the ear, one of primary tuberculosis of the heel, one of primary multiple tuberculosis of the brain, one of tuberculosis of a Graafian follicle, one of tuberculosis of the placenta, and one of tuberculosis of an artificial anus.

To these, I would add some others which have come under the observation of the Pathological Laboratory since that time. The material was fixed and hardened in alcohol, formalin, bichloride of mercury, or Müller's fluid, embedded in paraffin, sectioned and stained with hematoxylin and eosin, the diagnosis of tuberculosis having been made only after the tubercle bacilli had been demonstrated with the Ziehl-Neelsen stain.

Case I.—Tuberculosis of the Hypophysis: The subject in whom this was found was a young colored man, aged twenty-five years, who was admitted to the Medical Clinic of the University Hospital. His case was diagnosed clinically as acute general miliary tuberculosis. He died, and at post-mortem miliary tubercles were found macroscopically in the lungs, liver, spleen, kidneys and adrenals.

These findings were verified microscopically and when the hypophysis was sectioned, it was found to contain a small round or oval mass near the center of the posterior lobe. When the sections were stained, this mass was seen to be a circumscribed area of epithelioid tissue containing no blood-vessels. Few giant-cells were found and in the center of the mass, beginning caseation was seen. With the specific stain, scattered tubercle bacilli in small numbers were found.

I have had access to the "Index Medicus" and to the "Index Medicus Novus" and by means of these, I have looked up the literature of tuberculosis in general, acute miliary tuberculosis and tuberculous meningitis, and I have been unable to find reported a single case of tuberculosis of the hypophysis, so that, as far as I am able to know, this is the only reported case.

Case II.—Tuberculosis of the Intercostal Tissue near the Sternum, with Secondary Tuberculosis of the Axillary Lymph-Glands: This condition existed in a patient of Dr. Kinyon of Ann Arbor, with the following history: In May, 1899, she injured her sternum and an "open sore" resulted. Six months later, the axillary lymph-glands became involved and began to suppurate. The ulcer was curetted and an axillary lymph-gland was removed by Dr. Kinyon, May 24, 1900, and sent to the Laboratory for examination.

Sections of the curetting from the ulcer, showed that the floor and walls of the ulcer were made up of epithelioid tissue with very few small blood-vessels, and contained a large number of very large giant-cells with peripherally-arranged nuclei. The curetting, as a whole, showed little caseation. Sections from the axillary lymph-gland showed that its center was entirely replaced by epithelioid tissue without blood-vessels, containing few giant-cells and showing a beginning caseation.

I add this case because of the rather unusual seat of the primary tuberculosis and its secondary.

Case III.—Primary Tuberculosis of the Fal-

[1] From the Pathological Laboratory of the University of Michigan.

lopian Tube, with a Large Tuberculous Abscess in the Ovary: The patient from whom these specimens were taken was admitted to the Gynecological Clinic of the University Hospital and gave the following history: Mrs. A., Ann Arbor, Mich., aged twenty-five years, married, no children nor abortions. She has always had painful menstruation. One year and a half ago the cervix was dilated, but the dysmenorrhea showed no improvement. In June, 1900, she had "pleurisy, inflammation of the kidneys and bladder, and abscess in the pelvis." November 6, 1900, Dr. Martin removed the uterus, tubes and ovaries and sent the tubes and ovaries to the Laboratory for examination.

Gross examination showed that the tubes were greatly dilated and cystic and contained a yellowish granular material. The ovaries were swollen, covered with adhesions, and gave fluctuation. When the ovary was cut, it was found to be a large abscess containing greenish-yellow caseated material.

Microscopical examination revealed the presence of many miliary nodules in the plications of the tube. These nodules were composed of epithelioid tissue without blood-vessels, and in some nodules giant-cells with peripherally-arranged nuclei were seen. Sections from the wall of the abscess cavity showed that this wall was made up of this same epithelioid tissue without blood-vessels and contained but few giant-cells. Sections through some of the corpora fibrosa showed a beginning ingrowth of the epithelioid cells along the lymph-spaces.

Wolff, in 1894, collected all the cases then reported and found 110 cases. Since that time I have found two other cases reported, making 112. This case of mine makes 113 and another, which I expect to report in detail later because of the co-existence of tuberculosis and carcinomatous proliferation, will make 114.

Case IV.—Tuberculosis of the Thyroid Gland: This specimen came from a case which was diagnosed clinically as acute general miliary tuberculosis. At autopsy this diagnosis was confirmed by finding enormous numbers of miliary tubercles in both lungs and to a lesser extent in the spleen, liver, kidneys, adrenals and thyroid. Sections taken from the thyroid showed a small miliary nodule replacing the glandular substance. This small nodule was made up of central caseated mass surrounded by a narrow zone of epithelioid tissue containing neither blood-vessels nor giant-cells.

But few cases of tuberculosis of the thyroid have been reported. These cases have shown no clinical symptoms and have been found only as the result of thorough study of the autopsy material. Rolleston reported a case in which a large tuberculous abscess opened into the trachea and esophagus through small fistulæ. He quotes Fraenkel as having found 6 cases in 380 consecutive autopsies on tuberculous subjects. He also states that Chiari found 7 cases in 100 consecutive autopsies on tuberculous subjects, and hence he concludes that tuberculosis of the thyroid gland is not rare. Yet I have been able to find only four other cases reported, one by Perry and three by Voelker, making 18 in all. My case, then, would be 19 and it is the first that has been seen in this Laboratory in a series of over 60 consecutive autopsies of tuberculous subjects.

Case V.—Tuberculosis of the Uvula: This specimen came from a patient of Dr. Carrow with the following history: Mrs. S., aged between fifty and sixty years; a good family and personal history, and the mother of two strong muscular boys. She came to Dr. Carrow for a small nodule on the uvula. He removed it and sent it to the Laboratory for examination. The report sent back was "chronic granulation tissue probably tuberculous." He then removed the uvula *in toto* by extending his incision some distance outside the base of the uvula. Sections were made of the uvula and stained with hematoxylin and eosin and in carbol-fuchsin. Immediately under the epithelium was a granulation tissue very poor in blood-vessels. At a farther distance from the epithelium the sections showed small masses of epithelioid tissue, containing no blood-vessels. Scattered throughout these masses, and making up a large part of some, giant-cells with peripherally-arranged nuclei were found. Sections stained with the carbol-fuchsin showed tubercle bacilli in the giant-cells and a lesser number in the epithelioid tissue. In answer to the question whether the patient had pulmonary tuberculosis, Dr. Carrow informed me that she had a slight nervous cough but that he could find no evidence of tuberculosis in her lungs.

Although tuberculosis of the pharynx and larynx is of common occurrence, I have been unable to find any case reported where the uvula has shown any tuberculosis. This case, then, is unique in that it is one of the first, if not the first, case of tuberculosis of the uvula.

Case VI.—An Adenomatous Polyp of the Cervix Uteri Showing Tuberculosis: This specimen came from a patient, aged twenty-five years, with the following history: No children nor abortions. Seven or eight years ago, she "got her feet wet, took cold and had inflammation of the abdomen." For a year following, she had a continuous leucorrheal discharge which has gradually decreased in amount and now is absent. She has had no period since that time, she feels tired but otherwise is well. Examination showed that the ovaries were small and that a polyp, about the size of a cherry, was attached to the cervix. This polyp was soft, pulpy and bled freely upon the slightest handling. The polyp was removed and sent to the Laboratory for microscopical examination.

Microscopically, the specimen consisted of a large number of glands held together by connective tissue. The glands were tubular, branched and their lumina were lined by a single layer of columnar epithelium, the cells of which

possessed a finely granular protoplasm and a round or oval well-staining nucleus. Many of the cells had undergone a mucous change and the lumina of the glands were filled with a granular, stringy material staining grayish-blue with hematoxylin. The connective tissue of the polyp was made up of oval or spindle-cells, containing round or oval nuclei which stained deeply. Scattered through this connective tissue were small round or oval masses, made up of large round and oval cells with a large amount of finely granular protoplasm surrounding a bladder-shaped, lightly-staining nucleus. These areas contained no blood-vessels, but scattered through the areas were seen a few giant-cells with faintly-staining nuclei arranged peripherally in the protoplasm.

As far as I have been able to ascertain, this is the first specimen reported which shows the existence of tuberculosis in an adenomatous polyp of the cervix uteri. Two cases of tuberculosis in adenomatous polypi of the fundus uteri have been reported, one by Madlener, who cites another case but gives no reference.

Note.—Since this article has been in the hands of the editor, my attention has been called to two references of similar cases. Beyea, in the *American Journal of Medical Sciences* for November, 1901, reports a case which he calls tuberculous hyperplastic endocervicitis and which, from his description, must be similar to my case. He mentions having found other cases but does not state how many. Cullen, in his work, Cancer of the Uterus, cites three cases of tuberculosis of the cervix which had been seen at the Johns Hopkins Hospital. One was a tuberculous ulcer, another he calls a tuberculous condyloma of the cervix, and the third was a case of polypoid tuberculosis of cervix.

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NEPHRECTOMY FOR SEVERE AND PROLONGED MONONEPHROUS HEMORRHAGE.

BY GRANVILLE MAC GOWAN, M.D.,
OF LOS ANGELES, CAL.,
PROFESSOR OF GENITO-URINARY SURGERY IN THE UNIVERSITY OF SOUTHERN CALIFORNIA.

H. E. W.; thirty-five years old; occupation, merchant. General health has always been good. No history of gonorrhea or tuberculosis. He had a profuse hematuria eight years ago, which came on soon after lifting a heavy body and directly after coition, continued for several days and was painless. It ceased without treatment. Two months ago he had several slight chills, with some temperature. Soon after, while urinating at night, he noticed that the close of the act was painful. The next day there was dysuria, great frequency and imperative desire. A few drops of blood passed at the close of each act of urination.

The urine was examined microscopically, and was found to contain blood and pus. After this, the hematuria was constant, clots formed in the bladder, paroxysmal pains came on in the back, and were increased by pressure over the kidneys, the right side being most painful. After a week or ten days the pain lessened, but the bleeding continued as profuse as before. The quantity of blood lost must have been great, for the patient was very anemic, very weak, and had lost thirty pounds in weight.

Examination.—Penis normal, with small meatus; testicles, prostate and seminal vesicles, normal; bladder-wall at base not thickened, but a little tender on the right side; ureters not enlarged; kidneys cannot be palpated; urethra hyperesthetic to such an extent that a satisfactory examination could not be made, even with the thorough application of a ten-per-cent. solution of cocaine hydrochlorate; bladder capacity, ten ounces; contact sensibility, normal.

An effort was made to control the bleeding, which was supposed to be vesical, by injecting two ounces of a one-per-cent. solution of sodium chlorate. This was repeated a number of times on the 7th and 8th of October, but proved useless, and, I may say in passing, that although the local use of this remedy is highly recommended by some for this purpose, I have not found it to possess any value.

On October 9th, under chloroform anesthesia, he was cystoscoped. The image of the vault and those of the right and left segments were entirely normal. Blood could be seen issuing from the right ureter, and a bright scarlet band of blood-clot could be seen waving from its mouth. Clear urine came from the left ureter. Lying close to the neck of the bladder, a reddish mass, presumably a blood-clot, could be seen. The mucous membrane around the internal urethral orifice was intensely congested.

My colleagues, his physician and the consulting surgeon, believed that the hemorrhage must surely come from the bladder and that there must be a tumor. Like many others, they had but little faith in cystoscopy, and advised sectio-alta, to show that there could be no mistake about the source of the hemorrhage. This was done. A careful inspection of the inside of the bladder, by reflected electric light, gave the same results obtained by the cystoscope. The red mass in the bottom of the bladder was a blood-clot, and the hemorrhage came entirely from the right ureter.

On account of the great urethral hyperesthesia and the congestion about its internal orifice, the internal and external sphincters and the prostatic urethra were thoroughly stretched by uterine dilators. The meatus was cut and the phallic, bulbous and membranous urethra dilated rapidly with sounds to its utmost capacity.

Free hemorrhage followed the stretching of the bladder-neck. This was checked by hot

water. The bladder was closed by silkwormgut sutures passed through the skin, the abdominal muscles, and the bladder, including the mucous membrane. The space of Retzius was shut off entirely by attaching the anterior bladder-wall to the transversalis fascia, and the insertion of the recti muscles by buried catgut sutures. This closed the bladder tightly around the De Pezzer suprapubic drainage tube. Two quarts of normal salt solution were given in the chest by hypodermoclysis.

On October 22d the kidney was removed through the incision described by Abbe (*Annals of Surgery*, 1897), and by Mayo Robson (*Lancet*, May 14, 1898). The peritoneum was easily drawn to the left; the ureter rolling up with and upon it, was slightly larger than normal. It was examined carefully from the pelvic brim to the kidney without our finding any trace of neoplasm, stone or ulcer. When the kidney was pulled down slightly, blood could be seen coming out of its pelvis and passing down the ureter in interrupted spurts. This would clot about half-way down and the clots could be squeezed toward the bladder, but almost immediately their place would be taken by others. The kidney was loosened from its fatty capsule, a soft-rubber ligature drawn gently around the blood-vessels, and a free incision carefully made with a thin section knife upon its convex side and through its full length. As the kidney was not indurated, but was a little softer than normal and did not fluctuate when pressed upon, I did not expect to find cancer, sarcoma, or a tuberculous condition; but I did think I would surely find a papilloma in the pelvis or one of the calices. Greatly to my astonishment there was only a general purpuric condition. I would have sewed it up had the patient been entirely under my control, but his weakness was so great, and the macroscopic appearance of the kidney so degenerated, that we determined to remove it.

Two quarts of normal salt solution were used intradermically during the operation and he received four ounces by the rectum every three hours for the first three days; pain and heart's strength being controlled in the usual manner.

His general condition was so bad and the oozing from the wound so profuse that I was obliged to pack the greater part of it, which greatly retarded his final recovery.

Immediately after the operation, the left kidney commenced to secrete clear and acid urine freely. The De Pezzer tube, which had never leaked, was retained purposely in the bladder to run as a tell-tale, and to afford a method of urination, comfortable and free from strain, for the first few days. It was removed on October 26th, and its track closed tightly in twenty-four hours.

His stomach being irritable, he was given, as nourishment, hot milk with Vichy (Celestin's), for the first four days, when some bovinine was gradually added.

The last of the packing was removed on October 29th. For several days he complained of colicky pains in the neighborhood of the cecum, the secretions of the wound had a fecal odor and contained the bacillus coli. There was much pain for a week, but this was controlled very well by the free application of orthoform. A solution of lactate of silver, 1-3,000, in distilled water, was used to irrigate the wound twice daily; this soon removed the odor.

On November 4th I had an alarming experience with him. The urine, which had been freely secreted since the operation, became very scant, high colored, and contained some albumin and much bile pigment. His temperature rose to 101.3° F. and his pulse to 120. He complained of much pain over the remaining kidney. He was given three grains of calomel, by the mouth, and a intradermic injection of three pints of normal salt solution. In a few hours afterward the secretion of urine became profuse, the pain disappeared, and the next day he was all right. He was sent to his home at Santa Barbara on November 15th, with the wound entirely healed.

I have employed this Abbe-Robson incision three times for nephrectomy where necessity existed for the careful examination of the ureter, and, while I like the exploratory freedom which it gives, I cannot commend it. The muscular fibers are apt to be torn across in the process of retraction or in separating them.

I have satisfied myself of this by experimenting upon the cadaver, and the claim that it is a practically bloodless operation has not been in my experience substantiated. I prefer the clean cut, beginning in the front of the quadratus muscle, half-way between the crest of the ilium and the twelfth rib, and extending obliquely, downward and forward above the anterior superior spinous process of the ilium to the semilunar line, which may be found illustrated on page 453, Vol. I., Operative Gynecology, Kelly. This affords the same freedom for the examination of the kidneys and ureter; the same advantage of a prone position; is not any more bloody than the other operation, and gives a wound surface to my mind less liable to infection, and, I know from experience, without practically any liability to subsequent hernia.

Sections taken from the cortical and medullary portions of this kidney were examined by our pathologist, Prof. Stanley Black. He reported that there was not sufficient change anywhere observable to account for the profuse leaking of blood; that without the history of great and long-continued mononephrous hemorrhage he would regard the sections as not those of a diseased kidney. Macroscopically, the kidney when removed from its bed was intensely purple, bled profusely on section, and continued to bleed, seemed soft and degenerated, and as the hemorrhage had been so profuse, and so weakening and depressing over a long period, and the blood continued to well out of the cut surface longer than is usual after section, it was deemed wise by my colleagues and myself to do a nephrectomy in place of the nephrotomy which one would

naturally like to try where malignant growth was found to be absent, and the hemorrhage due to an undiscoverable cause.

No purulent focus was found in this kidney, either before or after its removal. The pus present in the urine undoubtedly had its origin in the subacute inflammatory condition of the posterior urethra, which may have had a reflex connection with the renal hemorrhage. The urethral hyperesthesia disappeared entirely after the overstretching of the whole canal at the time of the suprapubic section; full-sized instruments can be passed easily, without pain or spasm.

At the time of the publication of this article the individual is in excellent health, and conducts, successfully, a large mercantile business.

MEDICAL PROGRESS.

Unusual Signs of Aneurism.—The classical symptoms of aneurism are five in number, namely, tumor, thrill, expansive pulsation, bruit and shock, and yet any one or all of these signs may be absent. Besides these there are many well-known symptoms and signs resulting from pressure of the aneurism upon surrounding organs. M. E. Fitch (*Med. Times,* Nov., 1901) describes several signs of aneurism of the aorta which are rather unfrequently observed, but are of certain value when the more typical signs are wanting. Drummond's sign is elicited by placing the stethoscope over the manubrium. The patient is then ordered to take a full inspiration, allowing the air to escape slowly through one nostril. A peculiar interruption of the breath sound is given to the column of air by the aneurism. Cardarelli's sign of lateral movement of the larynx is similar to that of tracheal tug and closely resembles it. Ewart claims that slight degrees of tracheal tug may be present in normal persons. Scheele's sign is a dangerous one, as shown by the fact that two out of three cases upon whom it was tried died from internal rupture soon after submission to the treatment. He discovered that by pressure upon both crural arteries at the same time a severe pain would be produced in the aneurismal region with the disappearance for the time of the cystolic bruit. Perez's sign is a creaking sound heard over the sternum in cases of anterior mediastinitis when the patient raises and lowers the arm from the shoulder.

Antityphoid Inoculation.—As the years go by medicine is claiming for itself greater exactness as a science, and perhaps in no other field more than in serumtherapy. One of the last additions to this means of treatment is that of antityphoid serum or vaccine, as it is most unscientifically called. A. E. Wright (*Lancet,* Oct. 26, 1901) gives a most important contribution to this subject concerning observations in the Richmond Asylum, Dublin, an institution for the insane. After excluding all the patients above fifty-five years of age as insusceptible to the disease, the total number of those susceptible to the disease at the date on which the inoculations were made is fixed at 655, 541 being insane inmates, 114 nurses, 511 of the former having been inoculated, of the latter none. The number of cases occurring in the uninoculated and inoculated, respectively, during an interval of twenty-four days between the completion of the inoculating and the last case of the disease to develop is as follows: Uninoculated, 114 persons exposed, 5 stricken, no death; inoculated, 504 exposed, none stricken. The comparative incidence of typhoid fever in the inoculated and uninoculated calculated upon the average strength of each group during the period intervening between the commencement of the inoculation and the termination of the epidemic is as follows: Uninoculated, average strength 298, number of cases 30, number of deaths 4, percentage of cases 10.1, percentage of deaths 1.3; inoculated, average strength 339, number of cases 5, number of deaths 1, percentage of cases 1.5, and the percentage of deaths 0.3. While antityphoid serumtherapy is still in its infancy, no one can with reason doubt that the days of deadly typhoid-fever epidemics are over.

Intravenous Medication.—It often happens that rapid action of drugs is necessary to save patients from death. For this purpose G. Baccelli (*Klin. therap. Woch.,* Nov. 10, 1901) recommends the introduction of remedies directly into the veins. It is especially in the severe forms of pernicious malaria where muriate of quinine thus given has accomplished wonderful results. In the grave forms of syphilis there need be no hesitancy about injecting sublimate, as the albuminate of mercury formed is readily soluble in the excess of albumin present. The occurrence of thrombi, edema and perivascular hemorrhages is due to faulty technic. That the action of the mercury is prompt can be seen by the salivation which begins almost at once after injecting. Recently the author has used sublimate intravenously with astonishing results in cattle for foot and mouth disease.

Tuberculosis of Cervical and Bronchial Lymphatic Glands.—Whether scrofula is always caused by or associated with the bacillus tuberculosis has not been as yet definitely determined. While by some it has been ascribed exclusively to this organism others have thought that it might arise through the agency of other microbes and that in certain cases tuberculosis might subsequently supervene. Hugh Walsham (*Jour. Path. and Bac.,* Nov., 1901) considers this subject under the following heads: (1) Is the tubercle bacillus or its involuted forms always found in scrofulous glands? (2) What phases does the bacillus pass through in these glands? (3) What are the histological changes produced by these bacilli in such glands? He examined postmortem the cervical and bronchial glands in twenty-seven consecutive cases of pulmonary tuberculosis. These were chosen in preference to such glands removed during life, because of the suppurative changes generally

present in the latter. In all cases examined the bacillus tuberculosis was found. In five the gland substance proper was changed into a caseous mass and hence was typically scrofulous. He believes, therefore, that so-called scrofulous glands are really tuberculous in nature. Many other varieties of microbes were also found in these glands, but the changes produced are not due to such, as they are but seldom found in the gland substance proper, chiefly being present in the peripheral lymph sinuses. Much variation in the morphology of the tubercle bacillus present was observed. Greatly beaded, budding and branching forms were frequently observed. Schrön's capsules were also present. The first histological change produced in the gland substance proper is the proliferation of the adenoid reticulum with a disappearance of the lymphoid cells. The hyperplasia present is distinguished by the transformation of normal gland tissue into large-celled tissue. Pigmentation is frequently observed, as well as lardaceous change. It is impossible to form an opinion as to whether a given lymphatic gland is tuberculous by naked eye appearances. In all cases serial sections should be made. It is still an open question whether or not the lung can become infected by the gradual extension downward of the bacilli in the lymph channels. In those cases in which the tuberculous changes in the cervical glands are further advanced than in the bronchial it is probable that the lung infection has occurred in this manner. In many such cases the tonsil is the portal of entry. As a rule, however, the infecting organisms are conveyed to the lung through the inhalation passages.

Multiple Sclerosis.—Three cases are recorded by R. v. JACKSCH (*Wien. kl. Rund.*, Oct. 9, 1901) which, according to the general description of the disease, must be classified among multiple sclerosis, yet which presented certain variations which place them in a separate class. The typical symptoms—nystagmus, tremor and changes in the optic papilla—were absent, or present only transiently while inability to go backward and Romberg's symptoms were present. In all three the etiology was the same: The patients were employed in a chemical factory where they were obliged to expose the lower half of their bodies to heat, while the upper was constantly subjected to draughts, so that trauma of a thermal nature must be held responsible.

A New Surgical Position—Access to the diaphragm for surgical operations within the abdomen is especially difficult, because it is almost impossible to get the patient into such an attitude as will keep the parts exposed to work with the least interruption. G. KELLING (*Centralbl. f. Chir.*, Oct. 19, 1901) illustrates what appears to be a very good solution of this difficulty so far as attitude alone can surmount it. The patient in dorsal decubitus is brought to the end of the table so that his lower extremities, pelvis and most of his lumbar spine hang over this end; the feet are supported on a cushion. Slipping is prevented by straps over the shoulders in the usual way, and about the thighs at the groin; the former are to be attached to the other end of the table, the latter to the leg-pieces which hang vertically downward. A screen is erected on a half circle of hoop-iron which passes from side to side just under the arm-pits and supports a sterile towel or sheet and shuts off all possibility of the patients coughing or vomiting into the wound. The abdomen is then opened according to the indications of the disease, and the position assisted by gravity carries most of the organs downward toward the pelvis. In general terms the position appears to be the reverse of the Trendelenburg position. The author of it claims much in its favor.

Parametritis Posterior.—Pelvic inflammations in woman are all important to her as the patient and to us as surgeons with a view of what we shall do for them. P. BROSE (*Zeitschr. f. Geburtsch. u. Gynäk.*, B. 46. H. 1) sums up his latest observations on the subject as follows: Parametritis posterior, according to Schultze, is an affliction of the connective tissues and not of the peritoneum. Parametritis posterior and the parametritis atrophica circumscripta of Freund are the same processes. Parametritis posterior often appears with diseases of the peritoneum, tubes and ovaries, and also not uncommonly with parametritis atrophica circumscripta of other parts of the connective tissue of the pelvis For the cure of parametritis posterior which has resisted all other means, ventrofixation, even if the uterus is anteflexed, is a most successful procedure. When the uterus is retroflexed and bound down by inflammation or not complicated by inflammation, ventrofixation has precedence over all other means of treatment.

Pyloric Stenosis After Poisoning.—A case of pyloric stenosis, which followed the ingestion of a large amount of crude muriatic acid is reported by A. HAMMERSCHLAG (*Wiener kl. Rund.*, Oct. 9, 1901). A gastro-enterostomy, during the performance of which a deep constriction at the pylorus was found, completely cured the patient. Cases where the chief effects of the poison manifest themselves upon the pylorus are not very common and are difficult to explain. It is probable that the coating of mucus which is found, especially in drinkers and smokers, offers a certain protection to the esophagus and fundus of the stomach and to some degree neutralizes the acid. If the stomach is distended, the greater curvature is generally first affected by the corrosive fluid; if, on the other hand, it is empty, the entire gastric mucous membrane is liable to be destroyed unless there is mucus present to protect, when the fundus will pass the fluid on to the pylorus. Where the gastric glands are destroyed and the pylorus is narrowed there will be, as in this case, a high percentage of lactic acid present in the gastric contents.

Changes in Blood and Marrow in Chronic Arsenical Poisoning.—Notwithstanding the extensive literature concerning arsenical poison-

ing, but little is to be found therein with respect to the changes produced in the anatomical features of the blood. A comparative study of these changes and the degree of cutaneous pigmentation present throws light upon the relation of hemoglobin to the pigment of the skin. Different views exist upon this subject, some claiming that melanin is derived from hemoglobin while others maintain the controverse. J. C. MUIR (*Jour. Path. and Bac.*, Nov., 1901) reports the study along these lines of forty-eight cases of chronic arsenical poisoning. Of these nine were also examined postmortem and the marrow changes observed. In the blood-examinations the hemoglobin estimations were obtained by means of Fleischl's instrument; the red and white blood-cells were counted with Gower's hemacytometer; the dried films were fixed with alcohol and ether and stained with hematoxylin and eosin; in a few cases, however, Ehrlich's tri-acid stain was used. The bone-marrow was prepared in films and similarly stained. The blood of arsenical cases having deep cutaneous pigmentation is decidedly richer in red cells and hemoglobin than that of slightly or non-pigmental cases. This disproves the almost universally-accepted hypothesis that the pigmentation is due to destruction of the hemoglobin or red blood-cells and is evidence for thinking that the melanin of the skin is an important element in the production of hemoglobin. In human beings arsenic causes a decided erythroblastic reaction in the marrow of the long bones. A slighter but distinct leucoblastic reaction also occurs, which, however, may be in part or wholly due to an accompanying tuberculosis. The erythroblastic function of the marrow of the long bones is more easily stimulated in the presence of a large store of cutaneous melanin.

Determination of Organic Acid in Urine.—To determine the amount of organic acid present in urine the following method is given by F. OBERMAYER (*Wiener. kl. Rund.*, Oct. 9, 1901): Forty c.c. of acid urine are precipitated with chloride of barium; 25 c.c of the filtrate are diluted with 15 c.c. of distilled water and 6-7 drops of an alcoholic solution of dimethylamidoazobenzol added. Filtration is now carried on with decinormal hydrochloric acid until there is a decided change of color. The amount of the acid used will be an indicator of the amount of organic acids present in 20 c.c. of urine. Creatinin and albumin must be removed from the urine before the titration is begun.

Diagnosis of Tuberculous Meningitis.—The introduction of the lumbar puncture has made it possible to examine directly the exuded fluid and various methods are in current use to prove whether or not the fluid is tuberculous. R. BREUER (*Wiener klin. Rund.*, Oct. 9, 1901) briefly reviews these. A positive result after injecting the aspirated fluid into guinea-pigs takes too long to be of value. It has been pointed out that cerebrospinal fluid forms an excellent culture medium for the tubercle bacillus, but to set the fluid aside in the incubator and await a multiplication of the germs would also demand patience. The agglutination test is of no value, and the finding of a preponderance of mononuclear leucocytes is not always conclusive for tuberculosis. A direct examination of the stained sediment of the fluid is generally negative, but when done properly has proved positive in the 17 cases examined by the author. The fluid must be collected in test-tubes each containing 4-5 c.c. and these set aside, care being taken not to shake them. After 3-6 hours a very fine coagulum, containing the cellular elements with the bacteria, forms, while the fluid itself will be absolutely clear. An examination of the coagulum will almost always be crowned with success. In a second article in the same number, J. DONATH discusses the serodiagnosis of tuberculous meningitis. Five to fifteen drops of a specially-prepared, homogeneous culture were mixed with one drop of cerebrospinal fluid. The results were noted after 8-24 hours. Of four cases in adults there was a negative reaction in one, a partial one with a dilution 1:5 twice and a complete one with a dilution 1:5 once. In two cases in children the reaction turned out negative. The clinical value of the method according to the author is slight.

Dangers of Internal Urethrotomy.—The choice between the internal and external method of doing this operation is always difficult with the greater dangers on the side of the internal, says LAUWERS (*Jour. de Chir. et Annal. de la Soc. Belge de Chir.*, Sept. and Oct., 1901) and further gives the following points: As soon as it is impossible to pass a retention catheter or as soon as fever persists in spite of its presence, it is necessary to watch the patient most carefully and to be ready in the event of the appearance of serious symptoms to perform external urethrotomy or subpubic cystostomy. He has performed external operations for checking symptoms of infection of grave degree after an internal operation and is persuaded that the life of his patient was saved in consequence of it. The subpubic cystostomy certainly secures direct and free drainage, but presents the great difficulty of filling the wound in the urethra from above with the poisonous contents of the infected bladder. He therefore claims that the simple external urethrotomy shows better surgical judgment.

Nephrolithiasis and Spinal Disease.—The relation between renal stones and affections of the spinal cord are summed up by H. SCHLESINGER (*Wien. klin. Rund.*, Oct. 9, 1901) as follows: (1) Renal stones have been observed rather frequently in traumatic destruction of the spinal cord and syringomyelia; much more rarely in tumors; (2) the symptoms of nephrolithiasis follow after months or years; (3) the stones are generally phosphatic, less often uratic; (4) cystopyelitis is generally present with the phosphatic stones; (5) the spinal affection seems to favor the formation of stones directly or indirectly.

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SATURDAY, DECEMBER 7, 1901.

NEW DISCOVERIES IN INTESTINAL PERISTALSIS.

PHYSIOLOGICAL research of much more than ordinary interest to medical practitioners was reported by Dr. Walter B. Cannon before the Boston Society of the Medical Sciences at its last meeting, November 19, 1901. The addition to our knowledge thus made is likely to have far-reaching effects in clearing up a number of points heretofore obscure.

Dr. Cannon is already well known to students of physiology for his interesting observations on the movements of the cat's stomach during digestion, these being revealed clearly by the Roentgen rays when the food is mixed with a small proportion of bismuth. The present research is a logical continuation of the former, but in many respects of more practical importance. It considers in a similar way the movements of the intestine, and reveals these adequately for the first time, and therefore by almost certain analogy those of the gut of all mammals, including man. The events described here were proven not only by negatives taken directly with the rays passing through the animal but by actual demonstration on the cat.

Intestinal peristalsis as revealed by our new light consists of "recurrent segmentation" combined with advancing movements. This discovery of recurrent segmentation is new and is obviously the most interesting mechanical process of the small intestine. A string-like mass of chyme, four or five centimeters long, is seen lying quietly in one of the intestinal loops. Suddenly an undefined activity appears in the mass and a moment later constrictions at very regular intervals along the length of the food mass have cut it into little bits. In two seconds (on the average) constrictions around the centers of each of these little portions have divided each of them into halves, and have thus united the latter into similar masses occupying the spaces first mentioned. Thus the alternate dividing process goes on for half an hour or more in each mass of chyme. These regularly alternating constrictions occur in the cat twenty-eight or thirty times a minute, so that a given length of digesting food may be chopped apart and rejoined at least a thousand times before it passes along into another loop.

Here we have an explanation for the first time how the food is brought into contact with the gut-wall with intimacy adequate to the minute and complicated functions of mixture with the juices and of absorption. So, too, is explained at once what is the motive power of absorption by villus and by capillary and the force which so powerfully aids the circulation of blood in the gut.

The peristalsis in the large intestine is found by actual sight to be from the left end of the transverse colon to the ileocecal valve—antiperistalsis. The valve was found to be perfectly competent for the normal contents of the gut, for by no manipulation could they be forced backward into the ileum. On the other hand, liquid nutrient enemata readily passed upward and throughout the small intestine in even a quarter of an hour. From these facts one understands fully, again for the first time, the function of the ileocecal valve, for, the peristalsis of the large intestine being backward were it not there, harmful admixture would take place. Again, one can now realize the physiology of nutrient enemata, and that they are absorbed probably in the small intestine rather than in the large. Perhaps, too, the cause of certain common cases of appendicitis is revealed, the possibility now appearing that violently toxic substances from the rectum may be passed backward by the antiperistalsis and into even a normally closed appendix.

As was found to obtain, also, in case of the stomach, vexing emotions instantly stop all movements of the intestines, thus explaining many an experienced attack of functional indigestion.

We understand that the complete paper giving the details of these interesting new facts will appear in the *American Journal of Physiology* early in 1902. We are glad to have the opportunity of advancing these notes on this interesting and productive piece of work. We hope that these same observations will soon be made on the human subject so as to further this promising line of inquiry.

HOME-TREATMENT OF TUBERCULOSIS.

IT IS the custom to say that "end-of-the-summer colds hang on." There is perhaps some truth in the tradition, but by physicians it is generally understood that most of the presumably persistent summer and autumn colds are really pulmonary tuberculous processes that have been lighted up to a noticeable degree by the overexertion of vacation or the exhaustion incident to hot weather. Cases of tuberculosis are perhaps much more prominent in ordinary practice during the fall than at any other season of the year. The constantly-recurring problem for the physician is, How shall these cases be treated when first recognized? Because of the meeting of the Tuberculosis Congress in London during July, and the medical interest in the subject thus awakened, a number of practical points have recently been brought into prominence in the medical journals.

The important phase of the question of treatment that first presents itself is, Shall the patient be sent away from home? The affirmative answers to this question are by no means so unanimous as they used to be. Change of climate is no specific for tuberculosis. Any particular climate would seem to be no better than any other except inasmuch as it may allow of patients being more continually out-of-doors. For this, uniformly-mild, warm weather is not absolutely essential. On the contrary, for most people brought up in a changeable climate and accustomed to the bracing tonic of yearly wintry recurrences, a continuously-warm climate may prove so relaxing as to be positively harmful. Many a healthy person compelled for some reason to miss the northern winter to which he has been accustomed all his life may feel distinctly less active during the succeeding year.

It is probable that the enervating effect of a hot summer has much more to do with the development of the frequent acute exacerbations of pulmonary tuberculosis seen in the fall than the supposed deleterious effects of the changeable weather. Certainly the conditions found in these cases, as a rule, are not the results of recent pathological processes, but have been manifestly preparing for weeks, if not months. Tuberculosis is not due to cold and its progress, contrary to popular belief, we know is not fostered by cold weather. Actual experience has shown that for most cases of incipient tuberculosis a cold but dry climate is distinctly more favorable than a warm one, especially if the latter be also more or less moist. When Dr. Trudeau first proposed the Adirondack region for consumptives he was considered by many medical men to be riding a dangerous hobby, but time has amply shown the wisdom of his suggestion.

The cold of our city climate, then, is no contra-indication to its wholesomeness for consumptives. There are so many personal inconveniences and discomforts in addition to the serious discouragement attached to removal of patients to a distance, that their home-treatment becomes an alluring temptation. If there is reasonable assurance that directions will be followed it seems not only justifiable but advisable to try home-treatment for awhile. The index of failure in treatment is continuance of loss of weight. If patients gain in weight there is every assurance of their progressive improvement. Certain cases present actual contra-indications to removal to elevated regions. As Prof. Burney Yeo said at the Tuberculosis Congress, patients with laryngeal complications are never benefited by a mountain climate, while, if emphysema is present as well as tuberculosis, elevation does harm rather than good. Where intestinal complications or any renal disease exist, they are positive contra-indications. A climate having very wide diurnal variations is ideally bracing for consumptive patients generally, but leads to frequent disturbances of circulation that prove irritating to intestinal or kidney disorders for which the maintenance of a continuous equilibrium of circulation is the indication.

Some of the London experience with absolute open-air treatment in the home climate is suggestive. Dr. Hector Mackenzie in the Tuberculosis number of the *London Practitioner* (July, 1901) relates the details and results of cases kept night and day on an open hospital balcony. One

of his patients had suffered severely from that always-trying symptom, repeated hemoptysis. Another had suffered tortures from tuberculous pleurisy. In this latter affection, the continuous exposure of the patient to all the disagreeable vicissitudes of the London spring without harm is especially noteworthy. In the hemoptysic patient, improvement did not begin for a month, but then was rapid and satisfactory. The patient gained twenty-eight pounds in a few months. The case of pleurisy began to improve after the fourth day. Despite cold nights the patient did not complain of discomfort and slept well. The gain in weight soon restored her to good health and her painful pleurisy was felt no more.

In a word, recent contributions to the literature of tuberculosis point to the fact that the successful home-treatment of tuberculosis may be entirely feasible in cases where from extreme sensitiveness to cold or marked tendency to catarrh or other physical contra-indications in lungs, or digestive tract, or kidneys, a sojourn in elevated regions is unsuitable. If there be added the number of patients in whom the lack of means or the danger of depression from nostalgia makes removal especially difficult and problematic in its effect, it will be seen that there is a large field for the development and employment of properly-managed home-treatment for tuberculosis.

METABOLISM IN DIABETIC COMA.

THE acid-intoxication theory of diabetic coma is of comparatively recent origin. The high grade of urine acidity in diabetes, together with the fact that the same is due to the presence of inorganic acids, having been established in 1884, it would seem but a step to the comprehension that such must signify an intense acidosis of the system which in turn must stand in direct causative relation to the symtomatology of the disease. It was not, however, until 1899, largely through the work of Magnus-Levy and Herter, that the definite relation between acidosis and diabetic coma was fully appreciated. Since that time the acid-intoxication theory of diabetic coma has steadily added to the number of its adherents until to-day it finds practically universal acceptance. (E. P. Joslin, *Journal of Medical Research,* Nov., 1901.)

Practical therapeutic deductions have not been wanting, and it has been abundantly proven that the administration of a sufficient amount of alkali is, in many cases, able to overcome the acidosis, temporarily at least, thus ameliorating the condition and prolonging, if not saving life. Although the work hitherto done along these lines has laid the foundation for an accurate understanding of the metabolic changes present, there are many points which remain obscure. In most instances the immediate pre-coma period is characterized by the presence of large amounts of inorganic acids in the urine. Such, however, is not always the case. Exceptionally these acids are not demonstrable until twenty-four hours preceding coma. In such cases the explanation of the non-presence of such acids is not entirely clear. It is known, however, that the oxidation of inorganic acids requires the simultaneous oxidation of carbohydrates. In accordance with this fact inorganic acids appear in the urine of healthy individuals when carbohydrate food is entirely withdrawn; they however disappear when a small amount of such food is taken. It seems probable, therefore, that in the exceptional cases mentioned the body is able to oxidize a certain amount of the carbohydrates present and that coincidently these acids are likewise oxidized in the system and do not appear in the urine. This view does not, however, explain all cases.

Of late much stress has been laid upon the prognostic value of the frequent determination of the amount of inorganic acid present in the urine. It should be remembered that the presence of these acids in large amounts is highly significant of impending coma, but that unfortunately the converse does not hold true. In other words their absence does not uniformly warrant a favorable prognosis. The most ready and a sufficiently accurate manner of ascertaining the degree of acidosis present is by the administration of sodium bicarbonate. In healthy individuals the exhibition of ten to fifteen grams of this substance gives rise to a neutral or alkaline urine. In diabetics one to two hundred grams are often so required. The estimation of the amount of ammonia present in the urine is also a measure of its degree of acidity, but is not a safe guide when alkali or sodium bicarbonate is being taken.

During coma, in addition to the endeavor to neutralize the acids present in the system, every effort should be made to favor their excretion. It has been found that the amount of urine and the amount of acid excreted are directly proportionate to each other. We have thus a point of immense practical value and one of the cardinal

factors in the successful treatment of diabetic coma. Every effort should be made to produce abundant diuresis.

It is evident that in diabetic coma normal metabolism is markedly perverted. Certain groups of substances which once served as nutrients are no longer of avail, but are changed into products which are not oxidized and hence appear in the urine. We are at present acquainted with one of these groups—the inorganic acids. Their presence in large amounts in the body is harmful, not because of any specificity, but because of the degree of acidity produced. Nature endeavors to overcome this acidity by the increased production of alkali and increased excretion. The assistance of Nature in its endeavors forms the keynote of the proper treatment of this condition.

REPORT OF THE ST. LOUIS TETANUS COMMISSION.

THE special report of Drs. B. Meade Bolton, C. Fisch and E. C. Walden, who were appointed a special committee to investigate the occurrence of tetanus from the use of the diphtheria antitoxin in the city of St. Louis, is to hand in the *St. Louis Medical Review* of November 23d.

The conclusions reached are in substantial accord with the report made by our special correspondent given in the issue of November 9th, save that it appears that some serum prepared on September 30th was distributed and, moreover, that serum prepared at that time was bottled as serum prepared on August 24th. This accounted for the contradictions of dates in the early reports.

The results of this investigation may be summarized as follows: The diphtheria antitoxin prepared by the Health Department of the City of St. Louis, and dated September 30th, and some of the serum dated August 24th, was the cause of the recent deaths from tetanus in the cases where this tetanus was used. This antitoxin was sterile, but contained the toxin of the tetanus bacillus in considerable amount.

There were two different sera issued under the date of August 24th, one portion not containing the tetanus toxin and characterized by other properties, while the other contained the tetanus and was identical with the serum bearing the date of September 30th.

The most important result arrived at is the positive demonstration that the toxic serum dated August 24th and that dated September 30th are identical. From this it is concluded that the serum of September 30th was issued without having been tested by the proper methods, and that a part of it was filled into bottles bearing the date of August 24th, and were furnished with labels having previously been stamped with this date. The Committee was justified in drawing this conclusion from two observations. First, that the serum of September 30th was issued before there was time to have performed the simple tests necessary to determine the antitoxic potency of the serum. Second, in the same way, serum dated October 23d came into the possession of the Committee on November 1st. This serum had been issued to physicians by the Health Department, and by them returned to the coroner. It is obvious from this that no animal experiments could have been made with this antitoxin. As this was the case with the serum of October 23d, it is the natural inference that the serum of September 30th was issued in the same way.

It is denied that there was any possibility of latent tetanus having existed in the horse "Jim" from August 24th to September 30th, as no well-authenticated cases have been reported in which the incubation period extended over seven days, in experiments directed to test this point. The period of incubation cannot be determined from clinical observation, from the nature of the case.

It therefore follows from this that the serum drawn on August 24th was free from tetanus, but that the serum of September 30th was drawn during the period of incubation, and had it been tested upon animals it must necessarily have revealed its toxic properties.

From the foregoing facts the Committee is forced to conclude that the diphtheria antitoxin prepared by the City Health Department has been issued before it was possible to have obtained results from the absolutely necessary tests. Had these tests been performed, the results upon animals would have been such that the serum would not have been dispensed, and the cases of tetanus forming the basis of this report could not have resulted.

Further comment on this report is needless. The error was one of human fallibility and is freely exposed. No effort is made by the authorities to hide the unpleasant fact that there was carelessness in the manufacture of this particular lot of serum, and, much as the accident is to be deplored, the experience will not be without its profit for those who may come after.

ECHOES AND NEWS.

NEW YORK.

New Columbia Trustee.—Dr. E. L. Trudeau, P. & S., 1871, was elected trustee of Columbia University to fill the vacancy caused by the death of Dr. W. H. Draper.

Colored Hospital.—The managers of the Colored Hospital held the Graduating Exercises of the Training School for Nurses of the class of 1901 at the Academy of Medicine, Friday evening, December 6th. Dr. T. Gaillard Thomas delivered the address.

St. Mary's Hospital, Brooklyn.—The annual promenade concert and reception in aid of St. Mary's Hospital was held on Tuesday evening, the 26th ult., at the Pouch Mansion. There was a large attendance, and a considerable sum was raised. The proceeds will be applied to the relief of the sick and crippled children in St. Mary's wards.

Consumptive Children Excluded.—There is much indignation among the parents of children attending Public School No. 108 in Brooklyn, regarding a little girl said to be in the last stages of consumption. The parents desire that the sick child be excluded from school privileges lest their children become affected with the disease. The Board of Education when notified referred the case to the Board of Health, saying that the latter board had entire responsibility for the health of school children. The case, however, at this writing had not yet been reported to the Sanitary Bureau.

New York Academy of Medicine.—On Monday, December 9th, the Section on Surgery will meet. Dr. Lilienthal will present a patient recovered after an operation for pancreatitis and Dr. Erdmann one recovered after operation for intussusception. Dr. C. N. Dowd will read a paper on Gangrenous Intussusception in a Child of Four Years; Intestinal Resection; Recovery. Dr. George Woolsey will read a paper on Acute Pancreatitis with a Report of Three Cases.

On Wednesday, December 11th, at the meeting of the Section on Otology, Dr. B. A. Randall will present a paper entitled, Some Notes on the Teaching of Otology, with Lantern Slide Demonstrations.

On Thursday, December 12th, papers on Malnutrition will be read before the Section on Pediatrics: Dr. C. G. Kerley, on Syphilis; Dr. F. M. Crandall, on Tuberculosis; Dr. A. Jacobi, on Rachitis; Dr. L. E. LaFetra, on the Importance of a More Thorough Knowledge of the Chemistry and Physiology of Food, and Dr. S. H. Dessau, on the Action of Heat upon Cow's Milk as an Infant Food. Discussion by Drs. W. H. Porter, H. D. Chapin and J. Downing.

Dr. Martha Wollstein is recommended for election as resident fellow of the academy.

Medical Education in New York.—The report of the College Department of the University of the State of New York for the year ending July 31, 1901, will show that, during the nine years in which the medical licensing examinations have been held, 6,349 physicians have been examined, of which number 78 per cent. were licensed. During the last year, in medicine 671 regular candidates, 58 homeopaths and 20 eclectics have been examined. There were no failures in the case of graduates of six of the New York medical schools, and in only two of the New York schools did the percentage of accepted candidates fall below 90. In consequence of the number of requests received psychology will be given in the January, 1902, examination.

Appointment of Dr. Bailey.—Dr. Pearce Bailey was appointed instructor in neurology at Columbia University at the meeting of the Board of Trustees last Monday.

State Medical Society.—The annual meeting of the Medical Society of the State of New York will be held at Albany, New York, Tuesday, January 28, 1902, and will continue for three days. The scientific part of the program is being prepared by the Business Committee, which consists of Dr. Nathan Jacobson, 430 South Salina street, Syracuse; Dr. George R. Fowler, Brooklyn, and William C. Krauss, Buffalo. Members and delegates desiring to read papers will please communicate with the Chairman of this Committee. A rebate will be given by the railroads to members and delegates attending this meeting, but it is necessary in order to obtain this rebate that a certificate be obtained from the ticket agent at the starting-point, which the agent will give for the asking.

Medical Experts Fees.—Corporation Counsel Whalen, in a recent letter, has advised Comptroller Coler not to pay medical experts for services rendered at the request of Commissioners appointed to examine into the mental condition of persons indicted for crime until the power of such commissions to employ such experts shall have been judicially determined. Many claims of such Commissioners have been filed with the Comptroller, and include salaries of Commissioners, salaries of clerks and stenographers, and other expenses, as well as the fees of experts in lunacy.

PHILADELPHIA.

Wills Eye Hospital.—Owing to the veto by Governor Stone of the small appropriation voted this hospital by the State, it may be necessary to cease granting the privileges of that institution to patients from outside the city. The hospital is supported by an income of $19,000 per year and 14,000 persons are treated annually. A sum to finish a partly-completed contagious ward and to purchase $2,000 worth of new instruments must now be taken from the maintenance fund for next year.

Quest for New Municipal Hospital Site.—Dozens of sites have been offered the Committee on City Property, but none has yet been chosen.

It is believed that there is a strong tendency on the part of the city authorities to push the Petty's Island scheme in spite of objections from this city and Camden. The City Solicitor has given the opinion that it is unlawful for the city to take title to and erect a hospital and have full control of the same outside of the county line. This would bar the use of the island in question.

Tetanus Occurring During Vaccination.—Dr. Robert N. Willson read a paper on the above subject at the meeting of the County Medical Society, November 27th. He takes exception to the use of the shield, stating that it is not only of no advantage, but that more than anything else it conduces to tetanus. He uses an aseptic gauze pad, covered with cotton, and a bandage, this dressing being changed twice daily. A covering of lint and zinc oxide is used when the vesicle ceases to discharge. Dr. Willson has treated several cases of tetanus during the recent epidemic and finds that no one remedy is worthy of special confidence, antitoxin and carbolic acid both failing frequently.

Treatment of Tetanus.—Dr. F. A. Packard stated that the only cases of tetanus he had seen recover were those treated by injections of carbolic acid, every case treated by antitoxin having died. Twenty-five grains of the drug may be given in twenty-four hours with no symptoms of poisoning. Whether or not it possesses a specific action against the toxins of tetanus, he is convinced that its use is the one way of curing tetanus if cure be possible. Dr. Packard uses vaccine shields and believes that they do harm only when so tight as to obstruct the circulation of blood or lymph. All the very sore arms under his observation were those on which he had used a gauze dressing, it seeming to act as a mechanical irritant. The shield is to be preferred if it be removed at the end of forty-eight hours.

Relation of Bovine Virus to Tetanus.—Dr. Joseph McFarland discussed this topic. He has been making a special study of the subject of tetanus occurring during vaccination and, although not yet ready to make a full report of his investigations, he deduced some very interesting facts. He has found but five cases occurring during the early years of vaccination, one in 1853 and the remaining four in 1882. With this goes the fact that before 1882 human virus was almost solely employed. Now that bovine virus is almost exclusively used and a large number of cases of tetanus have recently occurred, the connection between glycerinized lymph and tetanus is suggested. Investigations show that in some outbreaks there is a regularity between the use of certain vaccines and the occurrence of tetanus. A careful study also reveals the fact that cases have occurred in bunches, as if a certain batch of vaccine material had been implicated in their production. As before stated, positive conclusions have not yet been reached, but from all the facts observed Dr. McFarland believes that the possibility of infection from virus now employed is not so remote as believed by many physicians.

Smallpox Again Increases.—During the week ending November 30th there were reported 116 new cases of smallpox in this city. This record is surpassed only by the statistics of the smallpox epidemic of 1876. Deaths during the same period numbered 14. The northeastern and northwestern portions of the city are mainly affected. The conservative *Public Ledger* in an editorial, after speaking of the necessity of widespread vaccination, says: "Universal vaccination cannot be secured unless the people are thoroughly aroused to the danger which confronts them. They are not so aroused as yet, because many of them have been lulled into a feeling of false security by the policy of silence that is being pursued by the Board of Health. What is needed in this crisis is the fullest publicity. The number of new cases should be given out daily. It is folly for the Bureau of Health to pursue the policy of silence any longer; it is confronted with the probability of a serious epidemic, and one of the best means of mastering it is to make the public acquainted daily with the exact situation."

Death of Dr. Essig.—Dr. Charles J. Essig died of pneumonia December 2d. Dr. Essig was a graduate of the Philadelphia Dental and of Jefferson Medical Colleges. After serving as instructor in several local dental colleges Dr. Essig organized the Dental Department of the University of Pennsylvania and was for many years its dean.

Water Measles.—A disease known by the above name in the Philippines and supposed to have been brought from those islands has made its appearance in New Jersey and in Stroudsburg, Penn. The eruption is a resemblance of water blisters, which finally burst. The eruption is accompanied by fever.

Report of Camden Board of Health.—The committee to investigate the recent outbreak of tetanus has made a report embodying the following points: Samples of all the makes of vaccine employed in Camden have been tested by the State bacteriologist and found to be entirely free from tetanus germs; the infection in each case of tetanus resulted from neglect on the part of the patient to give their vaccination proper attention; one case of tetanus occurred after a gunshot wound; the tetanus cases in Camden are to be explained upon atmospheric and telluric conditions which have prevailed during the past six weeks, there being dry weather and high winds; vaccination is harmless and should be insisted upon by physicians as an absolutely necessary procedure for the prevention of smallpox.

CHICAGO.

Electro-Medical Society.—This Society has taken steps toward joining hands with the State Board of Health in charging alleged medico-electrical experts with violating the State law which provides that only registered physicians

shall treat disease. The Society seeks to propagate the use of electricity as an aid to medical treatment and the use of the X-ray as a therapeutic agent. People who know nothing of medicine and are not registered physicians, it is said, have been treating serious diseases. It is proposed to stop this and to place the use of electricity and of the X-ray on a strictly professional basis. Officers for the ensuing year were elected as follows: President, Dr. G. G. Burdick; First Vice-president, Dr. A. W. Baer; Second Vice-president, Dr. Emil H. Grubbe; Secretary and Treasurer, Dr. R. H. Street.

Notable Gathering of Scientists.—Prominent scientists from all parts of the United States will attend the midwinter gathering under the auspices of the Field Columbian Museum, the University of Chicago and Northwestern University. The convention will begin December 31st. The meeting was brought about largely through the efforts of Dr. John A. Dorsey, Curator of the Field Museum. Among the societies which will be represented will be the American Naturalist Society, American Society of Morphology, American Physiological Society, Association of American Anatomists, American Psychological Association, Society of American Bacteriologists, and the Anthropological Section of the American Association of Anatomists.

Investigation at Dunning.—Drs. Hugh T. Patrick and Frank Billings are the medical members of the committee appointed by the President of the County Board to investigate the County institutions at Dunning. The committee has already begun its work.

Diphtheria in Evanston.—It is said that this disease is causing some alarm in this suburb. Sixty cases have been reported in the last two months.

Treatment of Pneumonia.—Dr. Edward F. Wells, in his presidential address, at a meeting of the Chicago Society of Internal Medicine, held November 27th, discussed this subject. Among other things he said: "The fact that pneumonia is increasing in prevalence is *prima facie* evidence that prophylactic measures have either not been adopted or have proven unavailing. Pneumonia is caused by the pneumococcus. The pneumococcus will not grow in acid media, and in its growth it produces an acid and an albumose, which in turn probably cause the death of the organism. Its different strains vary in virulency, and somewhat in biological characters. The pneumococcus is present in some part of the upper respiratory passages in a very considerable proportion of healthy persons, and it is probable that pneumonia is ordinarily due to the aspiration and slipping down into the alveoli of some of these ready-at-hand cocci." All discharges from the respiratory passages should be treated in such manner that they cannot gain access in the form of spray or dust to the respirable air. Pneumonic sputum should not be allowed to become dry, but should be burned. The tenacious, clinging expectoration should be carefully removed from the lips, teeth, etc. The mouth, throat and nostrils should be cleansed at proper intervals with an acid solution, followed after a few minutes by an agreeable mildly-alkaline antiseptic solution. With reasonable care along these lines it is probable that the infected person may jeopardize only very slightly the safety of those who come in contact with him. The chief element of danger in pneumonia is from the introduction of the pneumococcal toxins into the fluids of the body. This is one of the most powerful of the bacterial toxins, as may be inferred from the profound chill and raging fever which follow the initial introduction into the system of an infinitesimal quantity of the poison, and this diluted almost beyond conception. That the system becomes less impressionable and more resistant to the toxin as the malady advances is evident from the fact that progressively-increasing quantities of toxins absorbed do not produce correspondingly more pronounced effects. The essayist then discussed capillary paresis, leucocytosis, and antipneumococcic sera. With reference to the latter, he said that animal experimentation with dialyzed toxins, the glycerinated extract of dead and dried bodies of the pneumococcus, the serum from pneumonic patients, and the serum from animals, which have been subjected to long-continued pneumococcal inoculations, have, so far, been inconclusive as to their prophylactic or curative powers, and clinical experience with the various sera which have been placed upon the market has been equally inconclusive. He was free to say, however, that he has witnessed phenomena following the hypodermic injection of such sera which lead him to believe that they are agents of real and beneficent power. In one case the injections were followed by the reappearance in the blood, while the disease was yet at its height, of those harbingers of subsiding toxemia, the eosinophile leucocytes. Analogy leads us to believe that a useful antipneumococcic serum may be produced.

He believes that the employment of oxygen inhalations, begun early, certainly at the very beginning of a slight but steadily-progressive increase in frequency and shallowness of breathing, frequently and freely given, is a useful measure, and is one of the many things which may sometimes save a life which might otherwise be lost. He uses it with strychnine, caffeine, camphor, morphine, etc., each of which agents, properly, employed, is of the greatest value.

Pleurisy with Permanent Pneumonic Induration.—Dr. Robert H. Babcock, at the same meeting, reported four cases of this disease and propounded the query, Are they tuberculous? In these four cases he was impressed by several quite peculiar circumstances. First, the patients did not seem very ill and, judged by the mildness of the pyrexia and other symptoms, their illness seemed to be of a low grade of activity. All but one appeared to have recovered and are now in good health. Second, to judge from the extent and degree of dulness, one would have

expected considerable effusion; yet the insignificant degree of pressure-effects and the result of tapping demonstrated that the exudate was poor in serum and rich in fibrin, and that the degree of dulness and the quality of the respiratory sound at the apex could not be due to pressure or fluid in the lung, since the amount of fluid was in reality small. Third, one patient has since died of pulmonary tuberculosis, and in two of the others the personal and family histories were those of tuberculosis. Fourth, examination of the sputum, when any could be obtained, which was not always the case, failed to reveal tubercle bacilli. It is to be regretted that the serum was not obtained in such a manner as would have possibly thrown light on the nature of the cases had it been injected into animals and subjected to a culture test. He could only conjecture concerning the pathology of these cases, but the only conclusion that seems to explain them is that they were tuberculous. He believes that in three instances at least there had existed a small tuberculous focus at the apex, and that from this focus bacilli were carried by the lymph stream in a reverse direction to the fluid cavity. They there set up a pleuritis which was chiefly fibrinous. From this pleuritic exudate germs were carried to other parts of the lung, and there excited a pneumonic inflammation which was interstitial and tended to fibrosis. In this way the upper lobe, as well as the pleura, was involved in the process, and this combination accounted for the physical signs and subsequent findings after a lapse of many months. Of course, this explanation lacks the verification of postmortem examinations, but the well-known action of tuberculosis makes this explanation reasonable.

Plastic Operation for Shrunken Orbit.—Drs. Henry Gradle and M. Ritter presented a patient in whom a shrunken orbit had been successfully enlarged by plastic operation. The injury was done by molten steel, which destroyed the eyeball and burned the lower lid. Dr. Ritter had enucleated with normal healing. But when the patient returned half a year later to get a glass eye, the orbit was contracted and the inferior cul-de-sac so nearly obliterated that a glass bead 16 by 8 millimeters could scarcely be inserted and could not be retained. A transverse incision was made into the cicatricial tissue from internal to external canthus, and the dissection extended until a normal depth of inferior cul-de-sac seemed established. The wound was lined with Thiersch grafts of epidermis from the arm, which were retained by gauze packing. There was uneventful primary union, without any sloughing. Although the grafts were over an inch in length and nearly three-quarters of an inch wide, the first operation proved inadequate. The same procedure was repeated on the same scale twice at intervals of four weeks, each time with perfect union. The patient now wears an ordinary-sized eye with comfort. Dr. Gradle has previously had equally good results with Thiersch grafts in similar cases of less severity, while trials with Wolfe-Krause flaps in another instance had not given satisfaction.

GENERAL.

Insurance at Giessen University.—Giessen University insures its students against accident, paying $3,000 in case of death. Medical, chemical and veterinary students pay 20 cents a term for insurance; for the others no charge is made.

Woman Physician Appointed in Russia.—Dr. N. Sieber-Schumow has been temporarily appointed to fill the place of the late Professor Nencki as head of the department of Biological Chemistry in the Imperial Institute of Experimental Medicine at St. Petersburg.

Tuberculosis in Cleveland.—An investigation into the health conditions of this city has developed the fact that one out of every fifty inhabitants is suffering from tuberculosis. The investigation was made by the city authorities and Dr. B. G. Hannum. Steps are being taken to prevent the spread of the disease. The ordinance prohibiting spitting in street cars is to be enforced and clubs are being organized by the citizens to aid the authorities.

Suits Follow St. Louis Tetanus Cases.—Seven heads of families whose children died of lockjaw following the administration of antitoxin for diphtheria and four whose children were stricken with tetanus, but recovered, have announced their intention of suing the city for damages. They will base their suit on the Coroner's verdict, which found the city Health Department guilty of negligence in the manufacture and distribution of antitoxin.

British Medical Temperance Association.—A meeting of this Association was held at the London Hospital on November 15th. Professor F. Sims Woodhead presided. Dr. J. J. Ridge, in pointing out the advantage of total abstinence, said that we are all total abstainers from something or other, such as opium; and referred to the statistics furnished by sick benefit and life insurance societies, which proved that the total abstainer from alcoholic beverages had on the average less disease, more rapid recovery, and longer life. A very large number of medical students were present and took part in the discussion.

Plague at Honolulu.—A recent letter from Honolulu gives news of an alleged epidemic of bubonic plague at that port, reports of which have been carefully suppressed by the authorities up to the present time. The disease has made alarming headway among the Asiatics at Honolulu, and preparations are now being made to quarantine the port against the world, the embargo to go into effect next week. Twenty-three cases are positively known to exist, for this many plague patients are now at the Kalihi detention camp. This camp is guarded night and day. Fourteen of the known cases are Japanese and nine are Chinese. The Honolulu papers are not allowed to print any particulars concerning the plague.

Health Resort Problem.—The problem of housing and caring for the consumptives and

other invalids by whom San Antonio, Texas, is overrun is becoming serious. With the approach of cold weather in the North the influx of the sick has continued until boarding houses, hotels and the hospitals are filled to overflowing, and still the streams keep coming. If the invalids had money new hotels and boarding houses would be built, but the majority of San Antonio's transient population is composed of patients of small means or none. A movement is on foot to raise a fund to build a large free hospital to supplement the work of the City Hospital.

Lead-Poisoning in the English Potteries.—The new special rules proposed by the British Home Office for protecting the lives and health of the pottery-workers have met with a varying fate in arbitration. Manufacturers remain, for the present at least, absolutely free from official interference so far as process is concerned; the use of raw lead is still permitted them, and the percentage of soluble lead yielded by their glazes is a matter for their own consideration and consciences. The special rules of 1898 first introduced the compulsory use of fans for the removal of poisonous dust; workers were compelled to wear overalls and the manufacturers were compelled to provide better washing facilities. Since then there has been a remarkable diminution in the number of cases of lead-poisoning.

Another Open-Air Colony for Tuberculosis.—A sanatorium for the treatment of tuberculosis established near Plymouth, Mass., goes even further than the colony of consumptives living in tents near Denver, to which the MEDICAL NEWS referred last week. The patients at the Plymouth colony live in little shacks about twelve feet square, of which three sides are constructed of wood and the fourth side consists of a screen which is pulled down only in rainy weather, perfect ventilation being thus assured. The main feature of the open-air treatment is the sun-bath. On the top of the sanatorium proper, which was once a colonial residence, a large open space has been arranged, fitted with cots and lattice work. Here the patients are compelled to lie naked for a certain length of time every fine day, turning their bodies about so that they may receive on each part the direct rays of the sun. The whole cuticle of each patient is soon as tanned as are the neck and arms of a summer yachtsman. Following the sun-bath the patient is made to undergo a needle-bath, the temperature of which is regulated by the operator, ending with a sluicing down with cold water at a forced high pressure. A rub-down comes next, leaving the whole skin in a glow, and then the patient is dressed and sent outdoors. Very little medicine is given, the bill of fare is liberal and the patients are permitted to eat almost anything they fancy. A large vegetable garden is connected with the sanatorium. Patients are not allowed to visit one another in their rooms, and the rule against expectoration is rigidly enforced. This institution is not intended for advanced cases, but merely for incipient ones, which the managers declare can be treated in such a manner as to put new vigor into the patient and send him home with renewed interest in life.

More Deaths from Lockjaw.—Three more deaths from lockjaw have occurred in Camden, N. J., just when the Board of Health and the local physicians believed all danger was over. All three deaths are of children and cases not before reported. The vaccination in each instance was performed at a different place and no two were treated by the same physician. In all three, tetanus antitoxin was used with apparently good results, the jaws becoming loosened and convulsions suspended, but in each instance there was a recurrence of the spasm and death came suddenly.

The Bubonic Plague.—A telegram from the Governor of the Cape of Good Hope reports that for the week ending November 13th the only cases of plague at the Cape occurred at Port Elizabeth, where there were five cases with three deaths. At Mauritius there were 83 cases and 56 deaths. Liverpool has been declared free from the plague, no fresh cases having been reported during the past ten days. Glasgow is now officially declared free from the plague, no new cases having been reported for three weeks. The Central Station Hotel, where the original patients were employed, has been thoroughly disinfected and is now open for business. The mortality from the plague in India still runs high, being between 8,000 and 9,000 deaths a week. The city of Calcutta has at last awakened to the vile sanitary condition not only of the native quarter, but of the business and residential districts as well. The Health Department has now divided the city into four districts, each under the supervision of an engineer with a corps of sanitary inspectors, who will to a large extent work independently. Model dwellings are being erected for the poor, but it is doubtful whether they will prove successful. The entire drainage system, hitherto remarkably defective for a city of its size, is to be repaired and extended, and the inauguration of a continuous water-supply is contemplated. Fifteen miles of wide new streets are to be carried through the town, replacing the dark and filthy alleys where cholera and smallpox have always been more or less prevalent.

Lunacy in Ireland.—According to the recent report of the Inspectors of Lunatics for Ireland, lunacy is on the increase in that country and at a rapid rate in proportion to the population. The number of cases discharged as recovered during the year represented 8 per cent. of the average number resident, and the deaths amounted to 8 per cent., as calculated on the same basis. A high rate of mortality from phthisis prevails. The extreme liability of the insane to contract tuberculosis is well known, but the question of building isolation hospitals for them presents special difficulties, such as would not arise in ordinary hospitals. The returns show a rapid

increase in the number of cases of general paralysis, a disease which was comparatively unknown in Ireland not many years ago.

Borax as a Food Preservative.—A fish-dealer of Morecambe, England, was recently haled to court for selling shrimps which had been preserved with borax. The expert evidence given in the case stated that the borax kept the shrimps unchanged in appearance for months, and doubtless was in one sense desirable since it prevented the shrimps from becoming poisonous by undergoing putrefactive change. For the defence it was urged that the dealer soaked the shrimps in salt and water for eight hours and then boiled them. The question arose as to how much of the borax would be removed by this treatment, but none of the witnesses could give any definite information on this point. An analytical chemist said that he did not consider the amount of borax, 95 grains to the pound, excessive, and doubted if a less quantity would preserve the shrimps. Mr. A. S. Barling, surgeon to the Royal Lancaster Infirmary, said that he had given boric acid and borax in doses of 60 grains daily to numbers of patients without any ill-effects. It was suggested that the borax might be of advantage in destroying possible sewage organisms which so often infect seafood caught near shore. The defendant, however, was found guilty and fined the maximum penalty of £20.

Royal Tuberculosis Commission.—The Royal Tuberculosis Commission, which is now in session at Westminster, London, England, has arranged to carry out the experimental part of its work at two farms in Essex, which have recently been placed at their disposal. It is not expected that detailed reports will be made for some time.

The Sensations of Electrocution.—M André Broca, Professor of Physics, Paris, while experimenting with a Rhumkorff coil received a shock with a powerful current. Fortunately for the Professor, he held in each hand a very large electrode, to which circumstance he owes his escape from burns. On receiving the shock he was thrown to the ground, felt as though his heart had ceased to beat, tried to call to his assistant, but could not articulate. He had no feeling in arms or legs, and the walls of the room seemed to have turned green and inclined obliquely. When the current was cut off the Professor was assisted to rise and was able to walk slowly, though feeling as if he possessed but a head and two legs; he tried to move his arms, but they were paralyzed. When the arms were sharply pinched he felt nothing; while, on the contrary, his fingers were hyperesthetic. He was able to walk home and go up five flights of stairs without much discomfort, and after two days he felt perfectly well. It is noteworthy that after receiving the shock M. Broca retained perfect consciousness and said to himself that he was dying.

Obituary.—Dr. Henry Clarke Houghton, one of the best known homeopathic physicians in this country, died on Saturday afternoon at his home, 7 West Thirty-ninth Street. He was sixty-four years old, was born in Roxbury, Mass., and after a business education at the Ridgewater Normal School, began his medical studies in the Maine Medical School. Later he went to the Portland School of Medical Education, from which institution he entered the New York University, where he was graduated with the degree of M.D. in 1867. When he died Dr. Houghton was professor of physiology in the New York Homeopathic Medical College and in the New York Medical College and Hospital for Women. He was dean and professor of otology at the New York Ophthalmic Hospital and president of the New York State and New York County Homeopathic Medical Societies.

Dr. Henry Sutherland, for many years lecturer on insanity at Westminster Hospital, London, died November 19th.

Dr. John Connell, of Peebles, Scotland, well-known classicist and scholar, died November 2d.

Dr. Wm. G. N. Manley, Surgeon-General, British Army, Medical Department, died November 16th. For his services in the Franco-German war he received the Iron Cross. He also served in the Afghan, Egyptian and Zulu wars, receiving many honors for meritorious services.

Dr. David McDiel, Surgeon in the United States Penitentiary at Fort Leavenworth, Kan., died last week from the effects of a stroke of apoplexy. He was forty-one years old.

Dr. Isaac Newton Evans of Hatboro, Penn., who was a member of the Forty-fifth, Forty-eighth, and Forty-ninth Congresses, from the Seventh District of Pennsylvania, died suddenly of heart disease at his home Wednesday, aged seventy-four years. He was born in Chester County, Penn., and was graduated in medicine from Bowdoin College, Maine, and Jefferson Medical College, Philadelphia. Besides being a member of the American Medical Association, he was once President of the Doylestown (Penn.) Bank, and later of the Hatboro National Bank.

Sir William MacCormac, Bart., president of the Royal College of Surgeons, died suddenly from heart disease at Bath, England, Dec. 4th. His health had caused anxiety for some time past. Sir William MacCormac was born in Belfast in 1836, being the son of a physician, Dr. Henry MacCormac. He was honored by many societies in his life for his services to science. He received his education in Belfast, Dublin and Paris. After making a reputation as a surgeon in the hospitals of the United Kingdom and winning the gold medal of the Queen's University he saw service at Metz and Sedan in the Franco-German War as surgeon-in-chief of the Anglo-American ambulance, and also during the Turko-Servian War, in 1876. For twenty years he was one of the senior surgeons and lecturer at St. Thomas' Hospital, London, as well as consulting surgeon and examiner in many other institutions. In consideration of his services as secretary general of the International Medical Congress, held in Lon-

don in 1881, the Queen knighted him. In 1897, at the Queen's Jubilee, he was made a baronet and appointed surgeon-in-ordinary to the Prince of Wales, now the King, whom he attended when suffering from the effects of an accident. Many foreign governments honored Sir William. When the Boer War broke out he went with the British Army to Africa, and was present during the early fighting in Natal. He was the author of a great number of treatises on various subjects, most of which were contributed to different medical journals or societies. Among these may be mentioned: Surgical operations, Antiseptic Surgery, Notes and Recollections of an Ambulance Surgeon. In 1899 he delivered the Hunterian oration before the Royal College of Surgeons.

CORRESPONDENCE.

OUR LONDON LETTER.

(From our Special Correspondent.)

LONDON, November 23, 1901.

THE "LACNANTHES" TREATMENT OF CONSUMPTION—VIOLET LEAVES AS A CURE FOR CANCER: AN EXTRAORDINARY CASE.

OWING doubtless to the dearth of more sensational matter, the newspapers, as is their wont, have been edifying their readers with accounts of wonderful new "cures" of one kind or another. For the last three months a controversy about the treatment of tuberculosis has raged in the *Times*, which, if it has not been particularly instructive, has at any rate tended to relieve the habitual solemnity of that austere print. It was started by a man of some position in society who is under the impression that his wife was cured of consumption by the treatment of one Alabone, whose name was struck off the *Medical Register* some years ago for unprofessional conduct. Nevertheless he has continued to practise as before, as indeed any one may do here at his own risk. If he does not give himself out to be a legally qualified practitioner, and if no patient actually dies on his hands, the law will not meddle with him. The remedy to which Alabone attributes the success which he claims is *lacnanthes tinctoria*, or redroot, a plant of which our pharmacologists and therapeutists seem to know little or nothing, but which, I see, is said in Gould's *Dictionary of Medicine* to be "popular in parts of the United States as an expectorant and alterative in pulmonary tuberculosis." It would appear, however, that Alabone himself is by no means so thoroughgoing a believer in the virtues of his supposed panacea as the people who put their trust in him have been led to believe. At any rate I have seen a document written by his son, a qualified member of the profession who wears the mantle of which the paternal prophet has been stripped, in which he protests against their treatment being called the "lacnanthes cure." On this it may be remarked that if it is so known, that is entirely the fault of those who have come forward to vaunt its marvelous effects in the public press. The fact is doubtless that the "lacnanthes cure" has had rather more advertisement than is good for it; the constitution of these nostrums is naturally frail, and they do not bear exposure to the searching wind of criticism. It is not surprising therefore that Alabone should now prefer to rest his claims as a discoverer on something a little more occult. Accordingly one hears of a wonderful atomizer by means of which diseased lungs are supposed to be impregnated with sprays of various kinds. As far as one can gather those sprays contain nothing more than creosote, formaldehyde, menthol, and such like substances which have been used for the same purpose by practitioners in all quarters of the globe. A mystery is, however, made of the excipient; moreover, the apparatus is so complicated that it cannot be intelligibly described, and so difficult to manage that it cannot be used except under the personal direction of its ingenious inventor. The whole thing is so transparent a piece of quackery that it would not be worth mentioning but for the unpleasant commentary on the impenetrable darkness of the public mind in regard to medicine which it supplies. Numbers of otherwise sane and decently educated people have come forward to testify to cures of hopeless cases of consumption wrought under their own eyes by Alabone's treatment. The profession is publicly accused by people who ought to know better of persecuting a scientific discoverer, and striving for selfish reasons to "suppress" an infallible remedy. All this in the face of the fact, "gross as a mountain open, palpable," that the supposed specific has never been brought before the profession, and that Alabone has declined to have his method tested in a hospital for consumptives except under conditions which would make the test utterly worthless.

Quite lately a new "cancer cure" has come to dispute the public interest with the consumption "cure." A "lady of quality" (as our great-grandfathers used to say), Lady Margaret Marsham, sister of the Earl of Romney, had been suffering for several months with disease of the throat which was judged by the doctors who saw her to be cancerous. The disease increased to such an extent that she could only with great difficulty be fed through a small tube. There was a large mass of fungating growth on the outside of the neck. A small piece of the tumor was removed from the inside of the throat, and sent to the Clinical Research Association, a body which makes histological examinations for practitioners. The report was that the growth was an epithelioma. The case seemed to be past all surgery, and the old lady's life was regarded as a matter of days. In these circumstances another lady of quality, Lady Mary Ross, intervened and suggested the application of an infusion of violet leaves which she had heard mentioned in her young days as useful in cancer. As there was no hope from any other quarter, the remedy was

tried. The following is the formula as given in an enterprising newspaper:

"Take a handful of fresh green violet leaves and pour a pint of boiling water upon them, cover them and let them stand twelve hours, until the water is discolored and green. Then strain off the liquid, dip a piece of lint into the infusion, of which a sufficient quantity must be warmed. Put on the wet lint hot wherever the malady is. Cover the lint with oil silk or thin mackintosh and change it whenever dry or cold. The infusion should be fresh about every alternate day."

The effect of this application is described by a sister of the patient as having been "almost like a miracle." The external tumor disappeared in a week, the internal disease vanished in a fortnight, and Lady Margaret Masham is said to be now in good health and able to travel and visit her friends. Well, the skeptic may say, we have heard all this kind of thing before; it is the usual fairy tale of marvelous cures which one reads of in the pamphlets of vendors of quack remedies. But the case of Lady Masham differs from these in the important circumstance that all the particulars are fully certified by the testimony of competent medical witnesses. They naturally do not care to come before the public in connection with such a case, but had there been any room for denial of the facts or even for mitigation of their thaumaturgic character, they would certainly have considered it their duty to attempt to enlighten the public on the subject. Lymphosarcomatous tumors have, I believe, been known to disappear completely without any obvious cause; and cancer in aged persons occasionally contradicts what have somewhat arbitrarily been fixed as the laws of its evolution. But epithelioma of a moist cavity like the mouth is usually, as everyone knows, of intense malignancy. The only loophole of escape from the difficult strategical position in which this case appears to place medical science is the possibility of an error in the microscopical diagnosis. The fallaciousness of histological evidence as to the nature of tumors was conspicuously shown in the case of the late Emperor Frederick, and experienced clinicians refuse to accept the microscope as at all times and in all circumstances a perfectly trustworthy guide. In the case in question there is the further possibility that a mistake may have been made in the specimen. In a laboratory where large numbers of specimens are received every day confusion may easily arise as to the source of a particular one; this is known to have occurred in at least one previous instance.

There the case remains for the present; the profession will look forward to a full report from the physicians in attendance at the proper time. In the meantime the public will doubtless pin its faith on violet leaves, and many a sufferer will let his chance of cure or relief slip away by trusting to a useless remedy. I have already heard of one case in which the last hours of a poor woman dying of cancer of the breast were embittered by the disappointment of false hopes excited by the announcement of the violet cure. The wonderful case of Lady Margaret Masham may indeed have evil effects of a very far-reaching kind, for her relative, Lord Romney, is a personal friend of the King. Now, His Majesty in a public deliverance not long ago spoke strongly of the importance of finding a cure for cancer. If he should allow himself to be misled into making any public recommendation of violet leaves as a remedy, the effect among his loyal subjects—most of whom, as Carlyle said, are fools—would be simply disastrous.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

SURGICAL TREATMENT OF DISEASES OF THE LUNGS.

QUINCKE (Kiel) at the Seventy-third Congress of the German Naturalists and Physicians, held in Hamburg from September 22d to September 28th, read before the Section on Surgery a paper on the surgical treatment of diseases of the lungs in which he made the following points. He said that surgery of the lungs is only in position and, in fact, has but one task, *i. e.*, to provide exit for pus. He then described the mechanical and bacterial factors in pus formation and the predisposition to it which arises from the disease of the mucous membrane of the small bronchi and especially from the loss of the ciliated epithelium of the mucous membrane. Next come the tuberculous processes. The purpose of operating, the emptying of pus-cavities and their replacement by scar tissue, is in the lung very difficult on account of the peculiarities of position and structure. The difficulties are increased by adhesions to the chest wall and by a thickening of the abscess cavity wall so that it is hard and rigid. It is his opinion that an abscess in the lower lobe is more easily treated surgically than one in the upper lobe. If a large cavity exists in the lower lobe, a mere opening of it usually is sufficient. If, however, it exists in the upper lobe, the removal of several ribs may be necessary. Again, after it has been opened an abscess of the lower lobe is more easily emptied by coughing. The most important point of all is the diagnosis and especially with the microscope. The presence of elastic fibers in the sputum is significant, while their absence does not prove the absence of a cavity. Bacteria must be looked for, especially strepto-, staphylo-, and pneumococci. The pus from cavities usually has a foul odor. When the cavity is in the lower lobe expectoration is usually periodic. The classical symptoms of cavity in the lungs occur more frequently in the upper lobe, perhaps because in this situation they are usually of a tuberculous nature. Those of the lower lobe are not usually so large, are commonly crevices which become more or less filled with secretion. Amphoric breathing is very deceptive. The X-ray is of service only when the abscess is large; it then appears as a bright, illuminated area with a dark circle around it. If one now

wishes to operate an important question is, Are there pleural adhesions? Unfortunately for the physician, signs as to this point are unreliable and the adhesions are apt to be lacking when the pus arises from a chronic bronchitis. It is surprising how often one will be deceived at an operation by finding that all adhesions which were expected are absent. The patient is then likely to die from infection of the healthy pleural cavity with the pus. Gangrene of the lung is always a very bad sign, usually because of the septic intoxication which it causes. After the simple acute and the putrid acute abscesses there are the simple chronic abscesses which are caused, usually, by chronic dilatation of the bronchi (bronchiectasis). The chronic putrid abscesses are very hard to recognize and more hard to reach operatively. He therefore comes to the conclusion that acute processes are comparatively favorable and chronic processes are unfavorable for surgical treatment, and that putrescence, whether acute or chronic, is very unfavorable. Abscesses which are caused by foreign bodies promise good results to the surgeon. Tuberculosis is also rather enticing to the surgeon because the results of operation are really quite good. If one cannot actually attack the abscess cavity itself, it is often of great value to render the affected part of the lung inactive by cutting away the ribs and chest wall over it.

GARRÉ (Königsberg) gave a paper on the same subject beginning with the question of adhesions between the pleural surfaces, which are really a necessary help in all operations on the lungs, the absence of which causes distinct dangers. He says, however, if one were to operate only on adherent lungs, one would be very much limited, indeed. Unfortunately, there is no means of recognizing this condition in advance, consequently every surgeon must be ready to reckon with it. The records show that our fears in this matter have been very much greater than necessary. The great danger in pneumothorax lies in the collapse of the healthy lung on the opposite side and then in the likelihood of an infection. In practice these dangers can be very largely avoided by sewing the two layers of the pleura together or by use of gauze-packing, such as Roux has suggested. Abscesses on the level of the diaphragm are usually easy to reach and treat. A recent acute abscess of the lung may often be cured by simple incision and drainage, exceptionally by simple puncture and drainage. It also may be cured by Nature through a perforation into a bronchus, but the majority of abscesses must be treated on the basis of thick-walled abscesses. The conditions of the lung open to surgical treatment are (1) tuberculosis, (2) actinomycosis, (3) abscesses, (4) gangrene, (5) bronchiectasis, (6) ecchinococcus, (7) neoplasms. As to the method of operation there are also three steps, namely, (*a*) thoracotomy, (*b*) pleurotomy, (*c*) pneumotomy, or sometimes (*d*) partial pneumectomy. For thoracotomy, as a rule, mere division of the soft parts is not sufficient. It is therefore better to cut away several of the ribs and always as much of each rib as overlies the affected part. Cutting through the pleura is safe enough if there are adhesions. If there are not, it is often advisable to do the operation at two sittings, employing the interval for the making of adhesions. A careless opening of the chest is essentially dangerous through collapse. If this occurs the treatment is simple and usually effectual. The lung must be seized with some convenient instrument and drawn vigorously out of the wound. In this way pressure on the sound lung is relieved and that organ begins to act, dyspnea disappears and the pulse becomes strong. Similarly, a rapid sewing of the lung to the wall of the chest, combined with gauze packing, may limit or check the inrush of air into the cavity of the pleura. The site of the abscess of the lung is recognized by discoloration and congestion of the pleura, deposits of fibrin or thickening of the pleura, and by changes in the consistency of the lung tissue, especially if it is circumscribed and if it shows elastic tension or fluctuation. For entrance into such an abscess the Paquelin cautery is the best. It is often difficult to find the abscess, therefore, an aspirating needle is of good service. In acute cases, as a rule, nothing further is necessary than to pack the wound and let the abscess cavity heal from the bottom. In the chronic cases, however, such a procedure is useless, because the pus is under no pressure since the walls of the cavity are rigid. For this reason the outer wall of such a cavity must be removed as far as possible and with it the ribs of the chest wall also, so that the soft parts may sink in and adhere to the deep surface of the abscess cavity. If bleeding occurs from the wounding of a large vessel, packing will usually stop it. Tuberculous cavities are for the most part less promising, probably on account of the nature of the disease. The following operations, however, are at times indicated: (1) A wide opening, free drainage, careful packing in case of retention of secretions and all precautions against a secondary infection with the pyogenic germs; (2) free exposure and removal of the diseased part of the lung combined with a thoracoplasty if the abscess is isolated in the lower lobe; (3) removal of the chest wall and the pleura in addition is indicated when there are single discrete cavities at the apices of the lungs. The methods are as follows: (*a*) Resection of the first three ribs without opening the pleural cavity; (*b*) resection of two ribs with pleurotomy and freeing of the adherent lung; (*c*) the making of an artificial pneumothorax. Actinomycosis of the lung has been operated on but eight times. There are no special indications or technic in gangrene of the lung. The prognosis is very much less favorable, because so many of the cases died as a result of secondary deposits—for example, meningitis, abscess of the brain, embolism. Most of the gangrenous areas occur in the lower lobe and usually with a localized empyema. Bronchiectasis has been op-

erated on fifty-seven times, with twenty-one deaths. The difficulty seems to be to reach the disease without damaging the lung tissue overlying it. There have been eight deaths out of seventy-one operations for echinococcus of the lungs. The use of the needle is unsafe, dangerous and unwise. An open operation is the only safe one. The removal of neoplasms of the lung has up to the present time been very rarely done, for the reason that they are always impossible of early diagnosis and they are inoperable after they have progressed. Helferich attacked a sarcoma near the hilus of the lung. The result in this case was fatal, but it suggests that possibly, with an early diagnosis, tumors of the lung will come within the reach of the surgeon.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF RUSH COLLEGE (CHICAGO).

Stated Meeting, Held November 4, 1901.

Stricture of Membranous Urethra, Ascending Gangrenous Inflammation of the Entire Urinary Tract.—Dr. L. Hektoen presented the following specimens: The stricture was located a few centimeters from the meatus. Owing to the obstruction great dilatation of the bladder, the ureters, and the renal pelves had resulted, followed by a violent necrosis and gangrene of the entire mucous membrane, which presented a rough, shreddy, and dirty grayish appearance. There was present in characteristic form the necrosis of the apices of the medullary pyramids seen in recent dilatation of the renal pelvis and attributed generally to pressure. At the autopsy (Dr. Wells) the turbid, foul urine in the bladder was covered by a layer of liquid fat, which probably came from the extension of the destruction to the fat at the hilum of the kidneys. No other source for the fat was found. The patient entered the Cook County Hospital in coma and died soon after, so that exact facts as to the previous occurrences were not obtainable.

Healed Ulcerative Endocarditis of the Aortic Valves.—Two specimens were presented of hearts in each of which one aortic valve showed a large rounded perforation, with smooth but thick and sclerotic margins, about 1 c.m. in diameter, situated in the substance of the valve between the line of closure and the base. There was in each case general sclerosis and deformity of the aortic valves, the result of endocarditis, and in one case an acute destructive process was engrafted upon the chronic. The size, the location, the character of the margins of the perforations, as well as the several scleroses of the valves, led to the conclusion that it concerned healed ulcerative processes which probably had caused valvular aneurism with perforation, and that the specimens afforded anatomical evidence of the healing of ulcerative endocarditis, a possibility the occurrence of which is supported by clinical observations.

Ocular Paresis Presenting Unusual Clinical Pictures.—Dr. F. C. Hotz reported two cases of this affection. Paralysis of any ocular muscles causes a deflection of the visual line of the affected eye (strabismus) and diplopia, which is especially noticeable when the eyes are turned in a direction which requires the coöperation of the affected muscle. Under ordinary circumstances these symptoms (strabismus and diplopia) make the correct diagnosis an easy task. But the diagnosis becomes a perplexing problem if the patient prefers using the affected eye, perhaps because it has much better vision than the other eye, or for some other reason; for as soon as the affected eye is made to look straight the other eye will show a marked strabismus. In these cases the diplopia tests are exceedingly valuable for the diagnosis. To illustrate:

Case I.—Salesman, thirty-seven years old, presented himself with a marked convergent squint of the right eye and homonymous diplopia, which had come on about two weeks ago; cause unknown. Apparently paralysis of the externus of the right eye; but the double images came together when the light was moved to the right, and they separated when it was moved to the left. Homonymous lateral diplopia indicates paralysis of the externus and the separation of the images towards the left points to the externus of the left eye as the affected muscle. And the diagnosis was confirmed by the fact that the abduction of the right was normal, while the abduction of the left eye was greatly restricted.

Case II.—A workman, aged thirty-eight years, was struck over the left eye and six weeks later began to see double. The left eye is straight, the right eye is turned down and in. It looks as if the right eye could not be turned up (paralysis of its superior rectus or inferior oblique), but the diplopia test shows the image of the right eye above and to the right of the image of the left eye, the images separating in the upper field and coming together in the lower field. This test plainly shows that the downward movement of one eye is restricted, hence that the affected muscle is one of the depressors (inferior rectus or superior oblique). Homonymous images point to the superior oblique and the image of the left eye being lower points to the left eye. Hence the correct diagnosis is paralysis of the superior oblique of the left eye.

Sarcoma of Iris.—Dr. A. B. Hale presented a case of a young woman of twenty-two years, from whom he had removed a sarcoma of the right iris. The tumor was detected less than three weeks after symptoms of pain had appeared and had been promptly excised—seemingly in a capsule. The microscope confirmed the diagnosis, and the history of the case, together with the subsequent behavior of the eye, which was perfectly normal six months after the operation, indicated a primary sarcoma of the iris without recurrence. (Microscopical specimens exhibited.)

Penetrating Wound of Eyeball.—Dr. Hale also demonstrated an eyeball nucleated sixty hours after a penetrating wound made with a piece of steel from a hammer. The path of the foreign body through the lens to a bed in the choroid anterior to the equator was plainly visible. The eye had shown no inflammatory reaction, but an X-ray photograph was positive. The speaker referred to the progress made during recent years in diagnosis and treatment without the destruction of the eyeball, of such cases, but in view of this patient's age (77) and the unavoidable danger from delay, enucleation had been promptly done with the full consent of the patient.

Epithelioma of Lip and Cornea.—Dr. Wm. H. Wilder showed a man, seventy-one years of age, who seven years before had had an epithelioma removed from the lower lip. A short time ago, epithelioma developed in the upper, inner part of the right orbit, involving the eyeball. The case is under treatment by Dr. Pusey with the X-rays. He also showed a case of a man, fifty-one years of age, from whose right cornea he had removed an epithelioma. Recovery of perfect vision followed the operation. He also showed two specimens of epithelioma of the cornea, one of which was situated on the limbus and the other wholly within the cornea.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, Held November 5, 1901.

The President, Joseph Collins, M.D., in the Chair.

Portrait of Dr. E. C. Seguin.—Dr. J. Arthur Booth presented to the society a portrait of one of its founders, the late Dr. E. C. Seguin. The portrait was donated by Mrs. Seguin.

Case of Disseminated Sclerosis.—Dr. William M. Leszynsky presented a man whom he had first seen about two years ago. At that time he was thirty-two years of age, and stated that he had been well up to eighteen months previously. At that time he had suffered from occasional diplopia, but it had since almost disappeared. He had had occasionally a staggering gait and speech had become slow. There had also been some difficulty in swallowing. There had been no headache, tinnitus or vomiting, and no bladder symptoms. When first seen he had complained of being nervous and emotional. The examination showed him to be healthy in appearance. There was slight hesitancy in speech, and he was disposed to break into tears on slight provocation. There was slight horizontal nystagmus on efforts at fixation. The fundi and the visual fields were normal. His gait was slightly ataxic, and there was slight dragging of the right leg and a tendency to fall to that side. Both knee-jerks and Achilles reflexes were exaggerated. The examination of the urine was negative. On January 23, 1900, there was slight paresis in the left posterior thigh muscles and slight ataxia in the left upper extremity. In May it had been noted that he was not so emotional, but he dragged the left leg in walking, and the scapulæ were prominent. In December it had been noted that the static ataxia was well marked. In March of the present year there was slight rigidity and dragging of the right leg in walking with tendency to fall to the right. At the present time the pupils are normal; there is slight oscillation of the eyeballs; slight ataxia of the right upper extremity; muscular power is perfect; the speech is slow and uncertain; there is a tendency to fall toward the left with a paraplegic gait. He stands with difficulty on either leg alone. Both knee-jerks are equally exaggerated. A specimen of his handwriting was exhibited. During the past year there had been practically only an increase in the cerebellar incoördination and in the defect of speech. The man presented none of the stigmata of hysteria and was in no way neurasthenic. While he did not present all of the characteristics of disseminated sclerosis there were sufficient symptoms present, the speaker thought, to warrant this diagnosis.

Dr. B. Sachs thought there could be no doubt about the correctness of this diagnosis. It seemed to him a good example of the rather rare cerebellar form of multiple sclerosis.

Tumor of the Pons.—Dr. Joseph Collins presented some sections from a tumor of the pons. They had been taken from a woman, about forty years of age, who had gone to a dance on August 24, 1900, feeling quite well. After dancing a short time, the evening being very hot, she fell and remained unconscious for two hours. She said that her head felt heavy and her feet very light. The next morning on attempting to do housework she found that she was very dizzy and that the left side of the body did not seem to be under proper control. During the next three weeks there had been three transitory attacks of unconsciousness. There was in addition pronounced ataxia of the extremities, but no paralysis. There was also constant vertigo with occasional vomiting, and a feeling of great weakness. She also suffered from a distressing diplopia. After an interval of about a week, during which the symptoms had abated, they had again returned. She had then exhibited inebrious speech and had suffered from nausea on the slightest movement. He had seen her about seven weeks after the original attack, and examination had revealed paralysis of the right abducens and of the right facial with no reaction of degeneration; slight anesthesia of the upper two branches of the fifth nerve with no involvement of the lower branch; also hemiataxia and an exaggeration of the tendon jerks all over. There was not much headache at the time, and no optic neuritis. The woman died with symptoms of bulbar involvement. The lesion had been diagnosticated as an acute softening in the left half of the pons. On autopsy a section through the pons revealed a fluid mass,

but no evidence of a tumor or of an increase in the consistency of the pons. It had only been after hardening and cutting the pons that it had been found that there was an enormous angiosarcoma involving the left etage of the pons. It had pushed over the raphe and infiltrated the right half of the pons as well. This explanation of the lack of symptoms that one would expect with such a condition was that the growth had infiltrated between the motor and sensory fibers of the pons, but had failed to destroy them until a short time before the death of the patient. This was entirely at variance with what was usually observed in a growth of this character. Both acoustic nerves had escaped. At no time had there been any loss of vision, though careful tests had been made to determine this point.

Dr. M. Allen Starr said that last March he had seen in consultation with Dr. Biggs a patient who had presented rather a similar set of symptoms, namely, diplopia and paresis of several of the ocular muscles on both sides without a typical ophthalmoplegia externa. The patient also had anesthesia of one side of the face, and had the kind of speech often observed in bulbar palsy, together with a marked ataxia. There was no choked disk, so that the question had arisen as to whether the condition was one of softening of the tumor. In the absence of headache and choked disk he had inclined to the diagnosis of softening, but the autopsy had shown an infiltrating glioma.

Clinical and Anatomical Report of a Case of Multiple Congenital Deformities.—Drs. B. Onuf and J. Fraenkel presented a joint paper, which was read by Dr. Fraenkel. The subject of the report was a girl who at the age of four years had been admitted to the Montefiore Home on September 22, 1895. The condition of the extremities had been noticed immediately after birth, and it was said that convulsions had occurred frequently during the first year. One year and a half before admission an osteotomy had been done at the hospital for clubfoot. During her stay in the Montefiore Home the girl had been frequently examined by various specialists. The child showed normal cerebration, but the emotions were displayed in an explosive manner. The chief features were: Motor disturbance of all four extremities; asymmetry of facial innervation, the face being drawn to the left; atrophy of the muscles of the forearm and fingers; drop-wrist on both sides; decided diminution in the motor power of forearms and hands; absence of the reflexes of the upper extremities; lower extremities decidedly tapering, and the right one the longer; decided diminution of the motor power of the flexors of the leg and extensors of the foot. On attempting to walk, standing erect, an intense lordosis developed, and there was a cock-step gait. The clinical picture had remained practically unaltered up to the time of her death from diphtheria in June, 1897. The autopsy had been made by Dr. George R. Elliott. There was a subluxation of the hand and forearm forward. The palmaris longus muscle was absent. The ulnar half of the flexor sublimis digitorum was much reduced in volume, while the radial half was composed of fat only. The flexor profundus digitorum was also quite fatty. The flexor longus pollicis was converted into fat and the supinator longus into a band. The muscles of the extensor side of the forearm were all small but were not fatty. The thenar muscles were absent with the exception of the flexor brevis pollicis. There was a dislocation of the left hip upward and forward without any break in the capsule, and the head of the bone was situated forward of the natural acetabulum. The new acetabulum was made up of the thickened capsular ligament, but was otherwise apparently normal in shape. The pelvic and thigh muscles on the side of the dislocation were either fatty or atrophic. Microscopical examination of the psoas and entire muscle mass of the three adductors demonstrated: (1) A reduction in the volume; (2) an increase in the perimuscular fat tissue in some, and interfascicular fatty tissue in others at the expense of the muscular tissue proper; (3) increase of the perimuscular fat, chiefly in the adductor group of the left thigh; (4) increase of the fibrous connective interstitial tissue; (5) a vascular change, chiefly a thickening of the vessel walls; (6) disintegration of muscle fibers in some muscles; (7) preservation of a relatively large number of muscle spindle-cells in the affected muscles; (8) changes in the intermuscular nerve bundles, chiefly a scarcity of the nerve fibers and thickening of the perineurium. No less than 44 spinal nerve roots were examined microscopically and changes were found not only in many anterior, but also in many posterior roots. The spinal cord on gross examination showed an unusually meager development of the cervical and lumbar enlargements. Microscopically there were noted: (1) A shrinkage of the nerve cells of the anterior horns in most levels of the spinal cord; (2) a shrinkage of the cells of Clarke's columns in certain levels; (3) vascular changes and cavities in the gray matter, chiefly in the cervical and dorsal regions; (4) the presence of apparently undeveloped cells at certain levels; (5) proliferation of the ependyma of the central canal in certain regions; (6) changes in the white matter, probably by artefacts. On gross examination the brain exhibited nothing peculiar. Changes of an atrophic order and apparently the presence of certain cells in an embryonic state were noted on microscopic examination. The cells most frequently affected were the larger pyramidal cells. No vascular changes were noted. The authors concluded that in this case the primary cause of the muscular changes were thought to be secondary to the spinal changes. To give some idea of the minuteness and exhaustiveness of the examination made of this case it should be noted that 5,500 sections were made and prepared for examination.

Dr. George R. Elliott presented the right forearm and the pelvis of this child, and demonstrated some of the muscular peculiarities noted in the

report. The head and shaft of the dislocated bone, he said, were normal except that they were small from disuse. The dislocation was upward. The speaker emphasized the fact that this was not the form of dislocation known as a cengenital dislocation of the hip; true congenital dislocation of the hip was almost invariably backward on the dorsum of the ilium. The large ligamentum teres seemed to be only a physiological hypertrophy. There was nothing in the drop-wrists to warrant them being called congenital dislocations; they were rather the result of the pareses. With reference to the peripheral theory, Dr. Elliott said he could not quite understand how this would explain the picking out of portions of muscles and having them replaced by fat while others remained absolutely normal.

Dr. B. Sachs said that having seen the child during life he had never doubted that the diagnosis lay between an intra-uterine poliomyelitis and a developmental defect. The paralytic conditions were secondary to the central change. In spite of the elaborate investigation that had been made the report was not wholly satisfying as to the character of the process. It did not seem to him that developmental defect of the gray matter of the cord could not be excluded by the findings reported. It would have been interesting to follow up the anterior spinal artery and determine if this vessel were properly developed and had functionated properly. If it had not been normal, almost all of the changes in the gray matter described in the report could have been easily explained in that way. The case seemed to him to offer an example of a possible arrest of the development of the gray matter of the cord. He would like to know whether any unquestionable case of intra-uterine poliomyelitis had been reported.

Dr. V. P. Gibney said that, so far as he knew, this was the first case of intra-uterine poliomyelitis that had been reported. In various discussions on clubfoot the subject of intra-uterine poliomyelitis had been pretty effectually disposed of. He agreed with Dr. Elliott that the dislocation in this case was not a true congenital dislocation of the hip.

Dr. Joseph Collins said that, judging from the report, he would not be satisfied to admit that the case was one of infantile poliomyelitis, because nothing had been said regarding the changes in the substance of the cell as evidence that these cells had undergone the parenchymatous changes which cells do suffer in poliomyelitis of every kind. He understood that the reason these changes had not been described was because the specimens had not been properly hardened for the Nissl stain. This was a great obstacle to the acceptance of the statement that the lesions were dependent upon a poliomyelitis. In poliomyelitis of every kind the external contour of the cord does not change, yet in the case reported shrinkage of the cord was prominent. Again, the cells were reported to be quite scarce, but the cells themselves were not materially disintegrated as should have been demonstrable in specimens so prepared. He found it impossible to imagine that this perceptible decrease of cells in size and shape in the motor region was purely secondary to the smallness of the cells in the cervical and lumbar regions. The changes in the muscles seemed to indicate very distinctly that they were secondary to central changes.

Dr. B. Onuf closed the discussion. He said that he thought that even if the anterior spinal artery had been badly developed it would not explain why the changes observed were so much more marked in some regions than in others. The intramuscular nerve bundles appeared degenerated. If there had been a developmental defect in the spinal cord one would look for absence of certain nerves and expect the rest to appear normal. In his opinion, the changes found in this case were fairly typical of poliomyelitis. The number of the cells appeared, on the whole, to be diminished. If this were a case of intra-uterine poliomyelitis it was probable that comparatively few lesions would be found so long afterward as evidence of the process that had taken place. The changes of contour were probably explicable also on the ground that the process had lasted long. The distribution of the cell changes was far from being uniform. He saw no reason why the cortical changes should not be looked upon as secondary in view of the fact that the process must have occurred very early in life. In cases of congenital porencephalus of the right occipital lobe marked atrophy of the optic nerve had been observed and reported. In a case of this kind it was not right to draw conclusions from one or two points, but only after a careful study of the whole picture.

The Finer Microscopical Structure of the Cortical Areas in Man and Some Animals.—Dr. M. G. Schlapp made some remarks on this subject. He said that he had been struck with the great differences in the descriptions of the cortex as given by different writers. The earlier authors described five or six layers in the occipital lobe, whereas more modern writers described eight or even nine layers. These discrepancies he would explain by the fact that different animals had been used for their observations. The higher one goes in the animal kingdom the more the philogenetic secondary center tends to replace the philogenetic primary center. The secondary center does not control all movement, however. Plates were exhibited to show the differences in different animals. The motor area is not developed in the lower animals, so that it can not be distinguished from the rest of the cerebrum, but such an area can be observed in the dog and monkey. In the dog it is very near the frontal pole, whereas in the monkey it is much further back. In the monkey is found an eight-layer structure. The cortical sight center is very much developed in the monkey and in man. These differences in structure were demonstrated under the microscope. The granule cells are

characteristic of a highly-developed cortex. Most of these cells have ascending axons or very short axons. They are the cells which receive the impulses. These cells are very much more developed in the sensory than in the motor areas. In the sight center is found the eight-layer type. The auditory center can be recognized, but is not so sharply distinguished as is the sight center.

BOOK REVIEWS.

A TEXT-BOOK OF BACTERIOLOGY. By GEORGE M. STERNBERG, M.D., LL.D., Surgeon-General of the United States Army. Second Revised Edition. William Wood & Company, New York.

THE preface of the book explains its present status. At the request of the publishers the author has again undertaken a revision of his Manual of Bacteriology published in 1892. This is practically a third edition of that work, although the title was changed in 1896 and it now appears as a second edition of the Text-book of Bacteriology. A number of additions have been made to the present edition, including a section on Protective Inoculation in Infectious Diseases and one on the Bacteria of Plant Diseases. In order that the size of the work might not be materially increased, descriptions of species imperfectly described or of minor importance have been omitted.

General Sternberg's well-known volume on Bacteriology needs no introduction to medical readers. The book has been for nearly ten years one of the standard works in American medical literature and an acknowledged authority on its subject all over the world. The present edition, with its magnificent colored plates and handsome illustrations, and the thoroughly up-to-date revision of the text, worthily maintains the reputation of the book and of its author. The new chapters in the book are especially complete and satisfactory. Dr. Sternberg's admirable chapter on Susceptibility and Immunity is now fully supplemented by the article on protective inoculation. The treatment of this subject from the historical, scientific, experimental and the practical sides leaves nothing to be desired. The very full treatment accorded recent work in protective inoculations for cholera and plague as well as many of the infectious diseases in animals gives an excellent idea of this very important and very promising field of bacteriological work.

The section on the Saprophytes with its articles on bacteria in the air, in water, in the soil, on the surface of the body and the exposed mucous membranes, of the stomach and the intestines, of cadavers and putrefying material from various sources, and in articles of food are of special interest because of their significance for sanitation. This part of the book is worthy of careful reading by every general practitioner because it gives the latest ideas on these all-important every-day features of life in health and disease.

The chapter on the Bacteria of Plant Diseases introduced into the present volume is of interest mainly from a purely bacteriological or scientific standpoint, but it indicates the significance that comparative pathology has for medical men even when the subjects of disease are of the lowest order of living things.

A MANUAL OF MEDICINE. Edited by W. H. ALLCHIN, M.D., Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital, London. Vol. III. Diseases of the Nervous System. The MacMillan Company, New York.

THIS third volume of Dr. Allchin's Manual of Medicine not only maintains the high reputation of the series of manuals, but enhances it to a notable degree. Than nervous diseases there is perhaps no subject in which it is more difficult to do the compression necessary for a brief text-book and yet uphold the interest of the subject and keep the treatment of it from being too technical. In the present work the ideal has been kept well in view and approached, it would seem, almost as nearly as is possible.

The chapter on The Neuron in Its Relation to Diseases of the Nervous System, with its thorough discussion of the application of recent discoveries in minute nervous anatomy to cerebral and spinal-cord affections, is especially interesting and commendable.

The chapters on Diseases of the Spinal Cord are followed by an excellent table for the localization of lesions of the cord and its afferent and efferent nerves.

The chapters on Functional Diseases of the Nervous System, with their wealth of suggestion for the general practitioner, are very complete yet very concise and direct. Cortical fits and infantile convulsions are given consideration here, though it is usual to think of at least the first of these spasmodic affections as having some organic basis.

Considering its importance as compared to other occupation neuroses, it would seem that too much attention is given to writer's cramp and too little to the many affections that follow any habitual motion in an occupation if done to excess or under unfavorable mechanical conditions. The other occupation neuroses do not so often prove disabling, but they are a source of much pain and discomfort whose real cause is often ignored while treatment is falsely directed to the relief of the symptomatic discomfort.

The book is very takingly gotten up and is of a size and weight calculated not to discourage frequent and prolonged consultation. It is to be hoped that this series will inaugurate a movement that will provide lighter and more convenient text-books than the cumbrous tomes now all too common.

THE READY REFERENCE HAND-BOOK OF DISEASES OF THE SKIN. By GEORGE THOMAS JACKSON, M.D. (Col.), Chief of Clinic and Instructor in Dermatology, College of Physi-

cians and Surgeons, New York; Consulting Dermatologist to the Presbyterian Hospital, New York, etc. Fourth Edition. Lea Brothers & Co., New York and Philadelphia.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By JOHN V. SHOEMAKER, M.D., LL.D., Professor of Skin and Venereal Diseases in the Medico-Chirurgical Hospital and College of Philadelphia; Physician to the Philadelphia Hospital for Diseases of the Skin, etc. Fourth Edition. D. Appleton and Company, New York.

THESE two books have each passed through four editions and are also alike in having attained to more than a passing popularity. The specialty they treat of is one of such importance to the general practitioner that the demand for reliable hand-books on dermatology is great, and either one of the volumes under consideration has well deserved its success and is adapted for practical every-day use.

Dr. Jackson arranges his diseases alphabetically, a plan that greatly facilitates reference and in the present state of knowledge is as satisfactory as attempts at pathological classification. Conciseness and system are the most prominent features of the book, which is most commendably free from unnecessary matter, while the important subjects of diagnosis and treatment always receive adequate consideration. The volume is truly a *multum in parvo* and gives an encyclopedic amount of information in compact and practical form. A useful feature is the incorporation of a large number of foreign titles, and the illustrations are abundant and satisfactory. This edition differs from its predecessor mainly in the addition of sections on some unusual lesions and the omission of pronunciations, both changes that are to be commended and increase its value.

The second volume is a much larger and more detailed work, while Dr. Shoemaker's eminence as a teacher of materia medica and therapeutics gives more than usual interest to the sections on treatment. These are never disappointing and evidently represent the fruit of wide clinical observation aided by an intimate knowledge of the remedial resources at our command. As in his other works, the author's personality stands out strongly from his pages and lends a tone and color that makes their perusal pleasant as well as instructive. A particularly interesting chapter is the one on the general considerations of dermal anatomy and physiology, with the principles of diagnosis and treatment, which admirably prefaces the study of the separate lesions in detail.

TRANSACTIONS OF THE TWENTY-SECOND ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION, held in Washington, D. C., May 1, 2 and 3, 1900. New York, Carey Printing Co., 1901.

THIS is a cloth-bound volume of 235 pages, of good "make up," being uniform with its predecessors. Twenty-five papers are discussed. Those of greatest interest relate to methods of dealing with deflected septum and diseased middle turbinates. Atrophic rhinitis comes up again for consideration, as it ever will—like consumption—until a cause and a cure are found. The papers are of more than average merit; but the value of the book lies in what it is—the transactions of the Association.

SAUNDERS' QUESTION-COMPENDS. ESSENTIALS OF REFRACTION AND OF DISEASES OF THE EYES. By EDWARD JACKSON, A.M., M.D. Third Edition. W. B. Saunders & Co., Philadelphia and London.

THIS third edition of the author's "Question-Compend" is improved in the closing chapters by the addition of new matter on "Injuries of the Eye by Traumatism," "The Ocular Symptoms and Lesions of General Diseases" and "Tests and Requirements of Vision for Schools, Railroads and Public Services." The question-and-answer form of the teaching has its merits and demerits. When due allowance is made for the latter, there is no doubt of the great gain in vividness and directness of information conveyed in this manner and the ease of acquiring it. The more concise, the more difficult. Hence the greater care and skill required to state well both question and answer. The author succeeds in the main, seldom falling into irrelevancy, and then only in a minor degree, as in the answer to "What is Rupture of the Sclera?" Criticism is gratuitous of work so well done as that which this book presents. It well fills the place for which it is designed.

THE PRINCIPLES OF HYGIENE: A Practical Manual for Students, Physicians, and Health Officers. By D. H. BERGEY, A.M., M.D., First Assistant, Laboratory of Hygiene, University of Pennsylvania. W. B. Saunders & Company, Philadelphia and London.

ONE of the best indications of the trend of modern medicine towards hygiene and the prophylaxis of disease is the number of text-books on the subject of hygiene that are finding publishers. Dr. Bergey's volume of about 500 pages is not meant to take the place of the longer and more ambitious text-books on this subject, but, as stated in the preface, is meant as a manual for students of medicine, for students of architecture, and for physicians and health officers who require a compact statement of the practical principles of hygiene as they have come to be recognized in recent years.

The chapters on Ventilation and Heating are especially practical and are very suggestive for persons who do not wish to enter too deeply into these subjects. The chapters on Water and Sewage Analysis are very succinct, yet reasonably complete presentations of a difficult and complex subject. About 70 pages are taken up with the quarantine laws of the United States, inter-state quarantine regulations and Pennsylvania quarantine regulations. The necessity for

printing these regulations *in extenso* is not quite manifest. A digest of the laws and regulations would have served the purpose of the manual very well and would have made the book more practically valuable by allowing the author to devote more space to certain portions that are of special importance. Apart from this the book is an excellent compendium. Its quality as a manual of hygiene rather than a text-book should perhaps have been hinted in the title. For the limited use for which it was intended the volume will doubtless prove popular, for it bears marks of having been written by one who knows from years of teaching the practical difficulties of his subject.

SIXTH INTERNATIONAL OTOLOGICAL CONGRESS. Transactions. Edited by E. CRESWELL BABER. The Southern Publishing Co., Limited, London.

THIS volume of transactions, consisting of 477 pages, may be said to represent the latest views up to the date of the Congress held by the world's representative otologists on the important subjects considered. Unquestionably the greatest interest of the Congress centred around the subject of the mastoid operation in chronic middle-ear suppuration. Views most widely differing are presented; but the current of opinion sets steadily in the direction of the leadership of Prof. MacEwen in his advocacy of operative interference. As was to be expected, a conservative force of great strength and good judgment, occupied an intermediate position between the extremes of operative and *laissez faire* treatment. Thirteen nationalities are represented in the contributions. These transactions are so valuable that we should judge them worthy of something better than their present paper binding.

NERVOUS AND MENTAL DISEASES. By ARCHIBALD CHURCH, M.D., Professor of Nervous and Mental Diseases and Head of Neurological Department, Northwestern University Medical School; and FREDERICK PETERSON, M.D., Chief of Clinic, Department of Nervous and Mental Diseases, and Clinical Lecturer on Psychiatry, College of Physicians and Surgeons, New York. Third Edition. W. B. Saunders & Co.: Philadelphia and London.

Two editions of this work have been exhausted in as many years. This is perhaps the best possible sign that the work, though bearing signs of compression, is written in a manner that makes it especially useful to the general practitioner. There is no doubt that considerable of its popularity is due to the fact that it furnishes in a single volume thoroughly practical treatises on the two important subjects that are at the present moment attracting ever more and more attention—neurology and psychiatry.

In the preface to the third edition the authors state that a conscientious attempt has been made to thoroughly revise every portion of the work, both by additions to its subject matter and by rearrangement, wherever necessary to make it more acceptable to the student and practitioner. Such changes especially have been made as actual use of the book in class work has suggested. A number of new illustrations have been added and a number of sections entirely rewritten. There is about the book a very commendable air of easy simplicity that invites attention to subjects often made forbidding. The work is written so entirely from a clinical rather than a theoretical standpoint that its popularity is not difficult to understand. The illustrations are well chosen and add greatly to the value of the text. The therapeutic hints are always as full as is possible in the rather unsatisfactory treatment of nervous and mental diseases and on the whole the book is a thoroughly practical presentation in simple form of difficult subjects.

A TREATISE ON MEDICAL JURISPRUDENCE. Based on Lectures delivered at University College, London. By GEORGE VIVIAN POORE, M.D. (Lond.), F.R.C.P., Professor of the Principles and Practice of Medicine, University College, London. Longmans, Green & Co.: New York.

THIS book is intended to place the ordinary practitioner of medicine and of law in possession of the facts which occupy the middle ground between these two professions, a knowledge of which is essential. They were taken as a series of lectures delivered at the University College, London, and preserve the easy colloquial style of such discourses.

After a brief and interesting historical introduction, the author takes up in a very fascinating chapter, The Legal Relations of the Medical Profession. This chapter can be read to advantage by every practitioner. Following are chapters on Death, Putrefaction, Persons Found Dead, Poisoning, Symptoms of Poisoning, corrosive acids, caustic alkalies, phosphorus, arsenic, antimony, mercury, zinc, copper and lead, Vegetable and Animal Irritants, Food Poisoning, Narcotic Poisons including most of the poisonous alkaloids, Identity, Sex-Sterility, Rape, Sexual Crimes, Seminal and Blood Stains, Pregnancy and Abortion, Wounds, Drowning, Hanging, Fire, Starvation, Life Assurance and Insanity.

Thus the material covered is that usually found in similar manuals. Although the form is not as attractive as many, yet the work is well worth having.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

ANATOMY, DESCRIPTIVE AND SURGICAL. By Dr. HENRY GRAY. Edited by T. PICKERING PICK and ROBERT HOWDEN. Revised American Edition, from the Fifteenth English Edition. Lea Brothers & Co., New York and Philadelphia.

A TREATISE ON SURGERY BY AMERICAN AUTHORS. Edited by Dr. ROSWELL PARK. Third Edition. 8vo, 1,350 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

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ORIGINAL ARTICLES.

THE MODERN URETHROSCOPE.

BY WILLIAM K. OTIS, M.D.,

OF NEW YORK;

CONSULTING SURGEON, CITY HOSPITAL; ATTENDING SURGEON, ST. MARK'S HOSPITAL; FELLOW OF THE NEW YORK ACADEMY OF MEDICINE; AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS, ETC.

THE introduction of electric illumination and the more recent improvements in the construction of suitable incandescent lamps have rendered the modern urethroscope so simple and efficient that, from an instrument having a comparatively limited value among a few specialists, it has attained a prominent position in the armamentarium of genito-urinary surgery.

The difficulty of obtaining a suitable illumination of the urethroscopic field, which so hampered practical examinations with the older instruments, has been overcome by two separate and distinct methods, one or the other of which is now used in all forms of the modern urethroscope.

In one of these the source of illumination (the electric lamp) is introduced into the urethroscopic tube close to the mucous membrane, which it directly illuminates, while in the other the source of light is altogether outside the tube, the field being illuminated by rays of light thrown down the tube, either by a reflecting mirror, prism, or lens, as the case may be.

As early as 1867, Bruck of Breslau constructed an instrument, which was the prototype of the first of these methods, in which the light obtained from a platinum wire heated to a whiteness by a curent of electricity was employed, and this idea has been utilized by Nitze, Oberländer and Wossidlo in instruments which still have their advocates. It certainly is a tribute to the energy, perseverance, and infinite patience of these gentlemen, and their adherents, that they have clung so tenaciously to this expensive and complicated instrument, with its cumbersome battery, annoying water-cooling apparatus, rheostat, and the constant liability of burning the urethra, or of burning out the platinum wire (which was exposed to the air and had to be kept continually at a heat just short of destruction). The time wasted in its use, together with the difficulty of making urethral applications, all greatly offset the advantages derived from improved illumination.

About 1890 a New York electrician (Stammers) constructed a urethroscope at the instance of Dr. Henry G. Piffard, consisting of a minute incandescent electric lamp introduced by a holder into the urethroscopic tube which, while efficient as far as illumination was concerned, failed to prove very successful on account of the amount of heat produced by the lamp. In fact, this urethroscope was identical with some of those of the present time except that it did not have the low-tension electric lamp, which at that time had not been invented.

More recently a firm of electricians of Rochester, N. Y., developed a most ingeniously constructed and exceedingly minute incandescent lamp, of low tension, giving out almost no heat, but with good illuminating power. This permitted the production of an instrument which obviated many of the objections pertaining to the older forms of internal illumination. It was presented to the profession under the auspices of Dr. Henry Koch of Rochester. There are also two similar instruments bearing the names of Drs. Valentine and Chetwood, which, however, do not differ in principle.

The difficulty with all instruments having an internal source of illumination is that a portion of the field is obstructed by the lamp and its carrier, which, small as it is, is capable of interfering to a considerable extent when the smaller tubes are used. The light is adapted to one length of tube only and although all portions of the urethra may be observed with the long tubes, it is frequently of advantage, when working in the anterior urethra, to use shorter ones. With these instruments it becomes necessary to use a separate light-carrier for each length of tube used. The tiny lamp is tender, easily burned out and apt to be short lived.

All these objections are trivial, however, in comparison with the fact that the urethroscope with internal illumination *is not a good working instrument.*

The presence of the lamp hinders the use of applicators in conveying medicated solutions directly to the mucous membrane and of swabs when bleeding and discharge are present. If this is attempted, the lamp frequently becomes entangled in the cotton swabs, or becomes covered with blood or pus, rendering it, for the time being, useless and a very possible source of infection in subsequent examinations. Attempts which have been made to avoid this well-recognized difficulty by placing a small secondary tube alongside the urethroscopic tube to convey the lamp, with an opening between the small tube and the large one at the distal end through which the rays of light can pass, have resulted in very materially reducing the size of the field and in its unequal illumination.

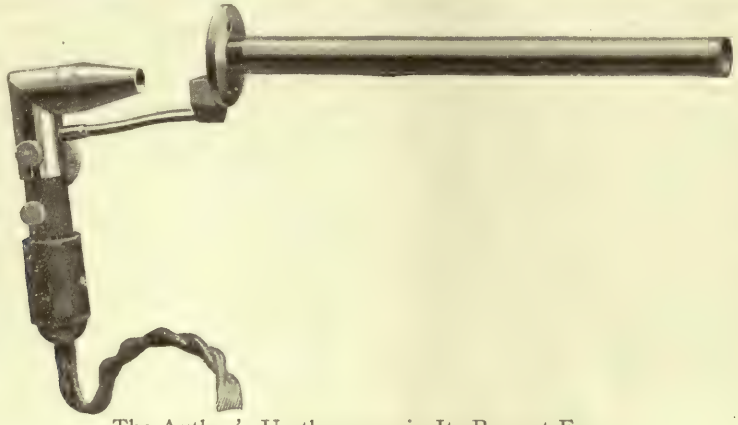
The illumination of the urethroscopic field by a source of light from the outside, reflected into the tube, is as old as urethroscopy itself and far antedates the experiments of Desormeaux, the first to make any serious use of this method of urethral investigation.

Previous to the year 1892, in all forms of the

urethroscope with external illumination, the mirror in some form was used to direct the rays of light and while in many of these instruments this method was fairly satisfactory it was of necessity accompanied by many drawbacks. The dazzling effect of extraneous rays of light on the eye of the operator became exceedingly unpleasant in prolonged examinations, the apparatus was usually cumbersome, even the best of these instruments lacked necessary power and they have been superseded by more modern methods of lighting.

In 1892 I devised an instrument on an entirely different principle from that of former urethroscopes, the rays of light from a small electric lamp being directed through a plano-convex lens to the bottom of the urethroscopic tube, thus attaining a better illumination and obviating most of the objections pertaining to the reflecting instruments.

The instrument in its present form possesses many improvements over the original device, due to alterations which have suggested themselves from time to time and to advances made in electric illumination. I have also to thank Messrs. Wappler & Co. for the excellent manner in which they have put these suggestions into practical form and for the success attained by them in its construction.



The Author's Urethroscope in Its Present Form.

It consists of a metal tube or cylinder, an inch and a quarter in length by somewhat less than half-an-inch in diameter, the first half-inch of which is narrowed down conically to form a funnel-shaped diaphragm, leaving an opening of a quarter of an inch in diameter through which the rays of light emerge. At the other end of this tube is a second tube of the same diameter forming an elbow at right angles to the first tube, three-quarters of an inch in length, into which the handle of the instrument fits. The funnel portion unscrews from the upper tube and a plano-convex lens is placed at this point to concentrate and direct the rays of a small electric lamp placed immediately behind it. This lens can be readily removed for cleaning

The handle consists of a cylindrical piece of hard rubber, about one half inch in diameter and one and a half inches long, to the upper end of which is fixed the electric lamp, while the lower end is arranged to receive the cords leading the current from the battery. A small electric switch in the form of a milled wheel is placed on one side of this handle, a half-turn of which makes or breaks the current. The two small screw-heads are seen on the other side of this handle; the upper serves to clamp fast the hood, the lower to fasten the lamp in position. The lamp is of a variety known as "high efficiency," differing from the others in a special preparation of the filament which enables it to give out a very intense light without a corresponding increase in heat; it is unusually strong and capable of withstanding a current of from sixteen to twenty volts. It is attached to a wire running through the center of the handle, so that it may be raised or lowered and clamped in position by the lower screw.

The only adjustment which may be necessary is, when changing the lamp, to see that the filament of the new lamp comes exactly opposite the center of the lens; a small piece of brass with a pin-hole in it has been placed on the handle behind the lamp socket, so that, by holding this to the light and moving the lamp up or down until the filament is exactly across the center of the hole, the lamp may be clamped in the correct position.

A strong wire connects the instrument to the urethroscopic tube by means of simple joint.

With reference to the length of the handle and the weight of the instrument, both of which have been criticized favorably and adversely, I would say that these depend entirely on the whim of the operator, as the handle may be lengthened to any extent or entirely done away with, while by a slight alteration in material and construction the weight (less than one ounce) may be reduced to a few grains.

The accompanying illustration is from a photographic reproduction exactly half the size of the original. A straight line drawn along the lower edge of the urethroscopic tube through the illuminating apparatus will give a very practical illustration of how little is the interference with

a direct view of the field or the introduction of instruments.

Great pains have been taken and many experiments made to perfect this instrument, with the result that *an illumination of field such as is not found in any other of any type is obtained. It gives the entire field of the tube used, offers no obstruction to the use of applicators, and at the same time nothing is inserted into the urethra which cannot be rendered thoroughly aseptic by boiling. It is simple in construction, strong, inexpensive, and fulfils all the indications of a good, practical, working instrument.*

ADHERENT PERICARDIUM.[1]

BY ROBERT H. BABCOCK, M.D.,
OF CHICAGO.

IT IS so manifestly impossible in the few minutes allotted to me to consider this subject in its entirety and so many of the points bearing on this subject have already been considered by preceding speakers, that it seems best to restrict my remarks to the clinical aspects of this disease.

We meet with adherent pericardium in two forms, (1) as a result of pericarditis interna, which has led to a more or less complete and firm union of the two layers of the sac without adhesion to the surrounding structures; (2) as a result of pericarditis interna et externa, which has caused adhesions not only between the peri- and epicardium, but also between the sac and the contiguous structures, as the chest-wall, diaphragm and lungs. In this second form there is often such an extensive development of fibrous tissue within the mediastinum, with consequent union of all the structures therein contained, that the condition has been termed chronic adhesive or fibrous mediastino-pericarditis. In some cases this proliferation of fibrous tissue is not limited to the mediastinum, but invades the pleural and peritoneal cavities in the form of a general serositis. Not only is the capsule of the liver thickened, but the connective tissue hyperplasia invades the organ, becoming especially marked in the interior of the lobules and in the fissure. In time this fibrous tissue undergoes contraction and the liver becomes reduced in size and hard, very much as it does in hepatic cirrhosis. The once enlarged and chronicly congested organ shrinks, becoming dense and thin bordered, more or less granular, but still fairly regular in outline, excepting that its notch is greatly exaggerated. According to Eisenmenger, it is by the contraction of the connective tissue within the fissure of the liver and consequent compression of the portal vessels that the shrinkage in the size of the organ leads to ascites, as does the atrophy in Laennec's hepatic cirrhosis. (3) Adherent pericardium may exist without chronic inflammatory changes in the endo- or myocardium, but in most instances it is associated with valvular disease or with chronic myocarditis.

Symptoms.—These depend not only on the extent and situation of the pericardial adhesions, but also upon the coexistence or not of other lesions as valvular defects. If the two layers of the sac alone are adherent and particularly if the adhesions are limited in extent, cardiac hypertrophy may be the only effect, and the circulation is carried on so adequately that no symptoms are produced. If, on the contrary, the two surfaces of the pericardium become adherent while the heart is in a state of dilatation from acute myocarditis or in consequence of valvular disease, and if the organ is therefore not able to return to its previously smaller size, the effect upon the circulation is eventually disastrous and symptoms due to stasis declare themselves. If the pericarditis was external as well as internal and led to fixation of the sac to some of the surrounding parts, the heart is held more or less firmly, as if in a vise, and is hampered in its work. Its systoles are less effectual than normal, since the fixation of its walls serves to hold the cavities in a state of distention and its contents are imperfectly discharged. Stasis inevitably results. If to this condition is united a valve lesion, such as mitral regurgitation, the effect is particularly bad and symptoms are not long deferred. It is for this reason that chronic, adhesive mediastino-pericarditis is so likely to prove a serious affection. In all cases there is much difference in the severity and manifestation of symptoms. In one individual these are referable chiefly to stasis within the pulmonary vessels, shortness of breath on exertion, cough due to bronchial congestion, and a marked disposition to attacks of bronchitis. In another case palpitations, either with or without dyspnea, are called forth by effort and excitement, occasioning much discomfort and at times alarm. In these cases the pulse is apt to be persistently rapid, it may be irregular, and the cardiac impulse is exaggerated in force and extent. In a few cases without coexisting valvular defect the disturbance of circulation is not pronounced, being shown only by digestive disorders lasting for years and attributed to simple dyspepsia or to chronic gastritis, but rarely to their proper cause on account of the obscurity of the pericardial lesion and the difficulty or impossibility of its diagnosis.

In most cases there is nothing to distinguish them from ordinary instances of mitral disease or from cardiac dilatation. Physical examination usually discloses enlargement of the liver from passive congestion, and this enlargement is generally greater than one would expect from the cardiac findings, and I have been impressed by the obstinacy of this hepatic engorgement under treatment. It is not only difficult to reduce its size by ordinary means of treatment, but the congestion of the organ displays a striking tendency to recur as soon as treatment is abandoned. I have had under observation for several years

[1] Read before the Section on Medicine at the meeting of the American Medical Association, St. Paul, June 4-7, 1901.

a female patient whose mitral valve leaks and whose enormously enlarged heart is apparently completely encased in fibrous tissue that binds down the organ on all sides, so that neither rest in bed nor digitalis seems to reduce its size in the least. The liver has always been greatly engorged, extending for a long time nearly to the crest of the ileum and requiring the daily use of saline laxatives to relieve the patient of pain and discomfort. For the past year the organ has been gradually diminishing in size and becoming thinner and harder. This patient has displayed remarkably little dyspnea of effort, but is greatly annoyed by the pounding and tumultuous action of the heart, this sensation being specially noticeable in the epigastrium. Of late she has had a great deal of cough, difficult mucous sputum, and upon several occasions slight hemoptysis. She has to be extremely careful in her diet. Her urine and menses have become scanty.

Another female patient, with pronounced mitral insufficiency, has pericardial adhesions that bind down the left side and base of the heart, fixing the apex beat immovably in place, far to the left and downward, but the border of the right heart is apparently free from adhesions. Whereas the left ventricle never varies in size under any conditions, the right heart, as shown by the area of cardiac dulness becomes dilated with the greatest ease and rapidity. The liver which is persistently enlarged fluctuates somewhat in size in accordance with the state of the right heart, but even when at its smallest always extends from two to three inches below the inferior costal margin, no matter how vigorous may be the onslaughts upon it by means of Epsom salts. This patient's symptoms are not of the digestive organs, but are those of shortness of breath and a rapid, pounding action of the heart and general weakness. The urine remains fairly abundant and the menses are too profuse and protracted. She is always promptly benefited by absolute rest in bed, a milk diet, cathartics and digitalis, although this last never materially slows the heart. When in all such cases compensation finally gives way, the breakdown is complete and irreparable. Symptoms of stasis declare themselves everywhere, but do not differ materially from those of cardiac asystolism from any other cause.

The most interesting class of cases is that in which the clinical features resemble those of a case of atrophic cirrhosis of the liver in its terminal stage. These are the cases of chronic fibrous mediastino-pericarditis, and they not infrequently pursue a latent course for many years, and even after symptoms have set in are not recognized as adherent pericardium until they come to autopsy. This applies particularly to cases in which the pericardial synechia is unassociated with valvular disease. Not only is there chronic engorgement of the liver, but the contraction of the fibrous tissue interferes at length with portal circulation and induces serious symptoms. The patient's attention is first attracted by an increase in the size and firmness of his abdomen. In some instances icterus accompanies or even precedes this increase of girth. At length driven to seek medical advice, it is discovered that he has ascites, usually without edema of the lower extremities. The physician examines the heart and urine, detects no heart disease and discovers no albumin, but perhaps some bile. The case is put down as one of hepatic cirrhosis. The following is an illustrative case: Not long ago I saw in consultation a man, fifty-five years of age, who had been intensely jaundiced for nearly two years and in August, 1900, was tapped for ascites. This had rather speedily recurred, had been reduced by apocynum cannabinum for a time, and had again been drawn off the morning of the day I saw him. He had had articular rheumatism eighteen years before, but had not suffered from any shortness of breath nor other discomfort since. The thin-bordered, dense, slightly granular feeling liver extended in the median line nearly to the umbilicus and from one costal arch to the other, being lost beneath the right ribs just outside the right mammillary line. Owing to the recent paracentesis, the peritoneal cavity was free from fluid and there was no edema. The cardiac area was somewhat increased to the right and downward, the sounds were clear and strong and free from murmurs. The apex-beat was rather tapping in the fifth left interspace within the nipple line, and there was not very well marked epigastric pulsation. In the fifth and sixth interspaces between the apex-beat and sternum, and also in the sulcus between the ensiform appendix and left costal cartilages, a systolic retraction could be perceived both by palpation and inspection. Furthermore, when the patient was instructed to draw a full, slow breath, the right external jugular could be seen to bulge out during the inspiration. This distention was also palpable. Pulsus paradoxus could not be determined. I had no hesitation in making a diagnosis of pseudo-atrophic cirrhosis of the liver secondary to adherent pericardium.

Such cases may run a protracted course and require repeated tappings, and the patients succumb to exhaustion if not to the effects of stasis.

Diagnosis.—Under some circumstances this may be one of the easiest of matters; in other cases, it is one of the most difficult. Diagnosis is difficult, if not impossible, when the sac is adherent to the heart but not to the neighboring structures. The signs then relied upon are inspiratory distention instead of the normal inspiratory collapse of the external jugulars or other superficial veins, diastolic collapse of the cervical veins, known as Friedreich's sign, pulsus paradoxus, a by-no-means constant nor reliable sign, and the detection of cardiac hypertrophy for which no adequate cause can be discovered. When the pericardium is adherent to the chest-wall or diaphragm, other signs are often developed that render diagnosis easy and certain. These are a systolic retraction of one or more interspaces in close proximity to the apex-beat or

of the epigastrium, fixation of the apex so that its gravitation from side to side with the turning of the patient's body or its descent during inspiration is prevented, or much restricted, a systolic retraction followed by a diastolic rebound of the chest-wall that by some authors is considered pathognomonic, a systolic sinking or drawing-inward of the tenth and eleventh intercostal spaces below the inferior angle of the left scapula and occasionally of the right, known as Broadbent's sign. These are all very significant and much more frequently discovered than are those previously mentioned. In some instances auscultation detects friction sounds of a fine crackling or creaking character along the sides or apex of the sac, which sounds are synchronous with cardiac contractions and are sometimes elicited only during inspiration. A fine, creaking sound is heard in some cases at the base of the heart upon the body of the sternum while the patient slowly raises and lowers the arms. The detection of such pleuro-pericardial or even strictly pleural friction sounds furnishes indirect or corroborative evidence of the existence of an adherent pericardium, and taken in connection with cardiac hypertrophy and hepatic engorgement would render the diagnosis extremely probable even in the absence of other more distinctive signs. Finally, in some cases in which positive signs can not be obtained, the diagnosis of this condition is rendered possible by a process of exclusion, together with the history of a previous rheumatic attack and the discovery of an hepatic enlargement for which no other predisposing cause can be ascertained.

The elaboration of this subject as well as the prognosis and treatment will have to be left to the speakers who follow.

CLINICAL FACTS AND THEIR MEANING.[1]

BY JOSEPH M. AIKIN, M.D.,
OF OMAHA, NEB.

THE members of this Society are daily confronted with clinical facts demanding solution. He is the exception among us who has the time or facilities for the study of pathology. The laboratory makes superior microscopists and pathologists, but it cannot produce a clinician. Clinical facts seen and their meaning apprehended bring us at once to the rational treatment of our cases.

In dislocations, fractures, or suppurating wounds, the dominant symptoms are common knowledge, the diagnosis usually obvious, and the plan of treatment intelligently indicated by the attending physician.

The busy physician possesses a similar appreciation of the great bulk of his surgical, obstetrical, gynecological, or febrile cases, confidently applies the remedy and the results warrant the confidence reposed in us, to the exclusion of modern "pathies," by the public in treating that class of disorders.

Clinical facts easily seen in the physical organism that are amenable to surgical and medicinal measures are usually presented by their possessors to the regular family physician, who is capable and does give them satisfactory treatment. Centuries of observation, verified by modern bacteriological and pathological research, have given us indisputable right to pre-eminence as leaders in this department of medicine.

The ocular evidence of a successful result, even in minor surgery, speaks more to the non-professional in estimating medical progress, than volumes on neurological or bacteriological discoveries.

The greatest benefits gained through our society meetings must be by comparison of clinical facts in that department of practice demanding our most frequent attention. I believe each member of this Society in his every-day practice, sees more cases classed as nervous than the sum of his cases in any two other departments of medicine. Many times the presence of neuritic complaints do not arrest our careful attention till their magnitude demands thoughtful, active and scientific treatment.

The clinical symptoms leading up to a fully developed motor or sensory paralysis or irritation; a single or multiple neuritis; a case of nervous prostration; neuralgia of the face or stomach, are quite as frequent and positive of some existing disorder as the prodomata in continued fevers, exanthematous affections, diseases of the liver, kidneys, lungs, ectopic pregnancy or uterine fibroid. Neuralgia, cephalalgia, cardialgia, or any of the many sensory nerve irritations common to both sexes, are certainly very frequently the specific cause for complaint by our patrons. If the patient be a male who refers the sensory disorders to the abdominal or pelvic regions, we carefully analyze the whole series of symptoms hoping to find an appendicitis or gall-bladder affection, but, failing in this, we honestly tell our patient so, remarking incidentally, to assuage our own and our patient's disappointment, that the pains are of reflex origin probably due to over-exertion or eye-strain. The favorite tonic prescription and a good prognosis end the interview.

If the patient be a female, the field for surgery is so broad and inviting that tonics and Nature pale into insignificance before the modern, rapid-acting operative procedure as a specific for all imperfectly-defined nervous complaints.

I believe experience justifies the assumption that seventy per cent. of all cases of sickness will recover without medical attendance. I also think a very large percentage of the cases we attend, apart from surgical or infectious disorders, are ill because of faulty digestion or assimilation. The variety and degree of pain and nervous disorder consequent on acute gastric indigestion are generally conceded as sufficient cause for great prostration. Nature is most beneficent and repairs the effects of over- or improper ingestion of alimentary substances, but the limits of toleration are readily passed; especially by those who bear the

[1] Read before the Nebraska State Medical Society, 1901.

burden of an hereditary weakness in digestive powers; beyond this point it is impossible for the natural digestive powers to dispose of this ingesta; destructive instead of constructive metabolism ensues, and the results are either temporary or permanent nervous disorder.

I have associated pain with acute gastric indigestion because sensory impressions are usually more pronounced in stomachic than intestinal disorder, and there are but few patients who think of a digestive disorder in the absence of pain in that organ. That they desire and partake of an abundance of food with but little gastric discomfort, justifies their conclusion as logical, and many times dissuades the physician from even suspecting intestinal indigestion, as the primary and continuous cause of the multiple neurotic and mental complaints he is called upon to treat. At least eighty per cent. of our population have faulty digestion and of these seventy-five per cent. are gastro-intestinal, principally the latter.

The gastric disturbance subsides under stomachic treatment, and after the ingesta have passed into the bowel there is a lessening of the gastric fermentation with much relief, until the patient declares that he is almost free from indigestion; but is continually constipated, resorts to purgatives, is annoyed occasionally by piles, is seldom free from pruritus ani, and is so nervous he becomes apprehensive of grave results. When the meteorism extends into the small bowel, it causes varied sensory impressions. Cathartics, laxatives and tonics are given after improper ingesta, until overstimulation of the digestive organs causes deterioration that may be permanent.

These clinical facts, so numerous when presented to the family physician, are too often passed over carelessly in search for some organic lesion. In medicine as in any vocation negligence of the minor complaints soon produces greater disorders, and we are largely responsible for creating a fertile field for extremists in the opposite direction to adopt some "pathy" as the remedy, while relieving the overworked and overstimulated alimentary canal until Nature restores constructive metabolism.

A very large percentage of our neurotic cases are of purely functional origin. It is, however, as necessary for us to apply rational therapeutics in these, as in treating self-limited febrile or exanthematous disorders.

Every physician of experience in families has seen patients complaining of migratory pains, radiating from the cardiac or post-gastric region, frequent urination with functional weakness of the bladder, cold extremities, flabby muscles and diminished reflexes. The introduction of iron, quinine, strychnine, arsenic, cod-liver oil and other good reconstructives does not in the great majority of cases effect the desired results. Patient and physician are alike discouraged because the strongest medicines fail to cure. Is it any wonder when the digestive canal has been refusing to assimilate natural ingesta? The rational meaning of such clinical evidence certainly points to restricted alimentation. Rest to the overworked organs is imperative. This is best accomplished by liquid diet which serves the double purpose of nutrition and elimination. So far as possible all food should be hot when taken, for its stimulating effects. The amounts ingested at any one time should be below rather than up to the demands of satiety by the patient. The intervals between feeding should be long enough to allow the organs sufficient rest before taking additional food. On the question of frequency of feeding, I am persuaded by practical results that our experience in nourishing fever patients every two or three hours has caused us to follow the same plan in our atonic dyspeptic cases. It is true the vitality is low in either condition, but with a febrile state the fuel is consumed much more rapidly than with a normal or subnormal temperature, so often found in the class of cases we are now considering. The circulation too is slowed and wanting in force. The correctness of this reasoning is proved by my own experience in treating a large number of nervous cases which we all concede should have tonic treatment.

Our failure of satisfactory results in treating illy-defined nervous complaints (where the disorder is most certainly functional) may be discovered in our neglect to use rational means in overcoming the impoverished blood and vitality, the essential symptom of which is malnutrition. A few hours or days will develop the objective facts upon which we base our opinion accounting for the sensory disturbance preceding exanthematous and other acute diseases.

If the overworked, overstimulated, and impoverished sensory nerves cry out with pain, the reason for the sensory disturbance is quite as plain and no less logical than that which we assign for pain during the pyrexia of a continuous fever, congestion of the lungs, or a simple furuncle. Rapidity of progress and the brief lapse of time between successive symptoms in acute cases enable patient and physician to keep the whole clinical picture clearly in view.

To met these conditions, quickly acting remedies of intense combative powers, radically applied, are sometimes immediately imperative. If the destructive agent is virulent and active, rational medicine must exhibit an equally potent opponent. If the ptomain needs weeks and months to establish the changes in metabolism necessary to disturb the sensorium, the rational plan for restoration to normal physiological function is rest, nutrition, and elimination, instead of powerful stimulation and continued overwork of the nutrient vessels.

A drug of sufficient strength to dissolve an hepatic or cystic calculus *in situ* would scarcely be less rational than much of the combative medication and feeding that we impose on an already exhausted nervous system.

The nervous system is slower to recover waste than any other structure of the body, because nerves are less fully supplied with blood-vessels

than any other tissue of the body. The clinical evidence of sensory nervous disorders is quite as plentiful and no less certain than the rational symptoms leading to operative measures in a surgical case.

The perception of these clinical indications belong in the practice of rational medicine; then is it not better that the emphasis be placed at once on the most obvious etiology and its removal instead of treating the symptoms? Every physician present has seen children in convulsions and adults unable to walk erect because tension on the abdominal muscles causes pain. The child is relieved by an emetic, an enema and a dose of castor oil, for it is an acute condition demanding heroic measures. The adult is the child grown to a chronic state with multiplied "algies" and "ites," demanding less radical but more prolonged restorative measures to reconstruct impaired physiologic activities.

Dr. Turck of Chicago in his excellent essay, "Motivity of the Stomach," calls attention to overwork or abuse of the stomach. He says: "Muscular weakness and resultant dilation of the stomach may also be produced by excessive weight, bulk or improper quality of food, or too frequent meals.

"To these factors may be added disturbances of the vascular or nervous system, especially disturbance of the vagus and other pathologic conditions which impair the muscular power of the stomach." Who of us has not seen "heart specialists" consulted for a purely gastric disorder? Among symptoms due to toxins, may be mentioned nervous disorders of all kinds, headache, vertigo, visual derangement, asthmatic attacks, tachycardia, dyspnea, tetany, agaraphobia, etc. A given quantity of food representing and imparting certain nourishing value, shows marked variation when motor insufficiency is present. The diet lists presenting certain foods and their period for digestion are made up from results in a healthy stomach. The regular meal may remain in part undigested not only hours but days, and becomes a source of intoxication rather than nourishment to the patient who with large ingesta of nourishing food, is practically starving, motility is impaired, and the sensory nerves cry out with pain.

It has been well said by Abernathy, "We live on one-third of what we eat, and keep the other two-thirds at the peril of our lives."

AN EPIDEMIC OF SMALLPOX AT THE MICHIGAN ASYLUM FOR THE INSANE, KALAMAZOO.

BY ARTHUR MAC GUGAN, M.D.,

OF DENVER, COLO.

ANY disease appearing in the orthodox form as described in text-books is, as a rule, easily identified and presents little basis for contention. The cases of smallpox occurring in Michigan at present lack some of the characteristics of *variola vera*, but are genuine nevertheless. The epidemic, as it appeared at this institution, is said by those who have seen cases in other parts of the State to present the characteristics common to all and is apparently like some of those reported at the last meeting of the American Medical Association. Being like them atypical, its detailed description would seem, especially at present, to be of use.

On Wednesday, June 11, 1901, I prescribed for a nurse complaining of discomfort incident to the menstrual period. Thursday evening, June 12th, she was excused from duty, her symptoms having increased in intensity. Friday, June 13th, I found her in bed with a temperature of 103.8°F. She complained of intense headache, backache, tenderness all over the abdomen and especially in the epigastric region. No diarrhea nor vomiting. Saturday evening, June 14th, she had a few maculæ on the abdomen and the temperature rose to 106°F. Diazo-reaction and the Widal test negative. She gave a history of epistaxis a week before and I diagnosed "probably typhoid." Hydrotherapy had already been instituted, but, to my surprise, did not materially affect the temperature.

On Friday another nurse was taken ill with the same symptoms, but with absolutely no prodromes and on Sunday, June 16th, both presented an eruption upon the face. The temperature of the first case dropped to 99° F. plus and the other symptoms abated. I saw that my diagnosis of typhoid was wrong and became suspicious of variola. Another member of the staff who had seen and treated some of the Upper Peninsula cases was called and was inclined to the diagnosis of variola. We vaccinated both the patients, also ourselves and gave orders for the usual precautions. Consultation, including the City Health Officer, was called on Thursday, June 18th. By this time another nurse was taken ill with the disease, also four patients. The stage of invasion in all of them was lighter than in that of the first two. It was diagnosed "chicken-pox."

By the end of the second week in July there had been twenty-nine cases, two of which could be called severe. On July 18th, the Health Officer and another physician from the city visited the patients, and it was decided to report the epidemic to the Secretary of the State Board of Health and ask for expert counsel. Dr. George E. Ranney of Lansing was detailed to see the cases and on looking them over pronounced them all smallpox. The institution was at once rigidly quarantined, and a general vaccination begun, which on account of delay in securing vaccine, consumed nearly a week for the 1,700 people. During the week new cases appeared at about the rate of three daily. Since the vaccination only six cases have appeared, all of them having been exposed previous to the vaccination and having the stage of incubation probably established. The last case appeared August 9th and is marked recovered

[1] Read before the Kalamazoo Academy of Medicine.

August 20th, so that the institntion is now free from the disease.

The origin of the epidemic was for a time doubtful, but the contagion is now believed to have been conveyed by a patient brought from the Kalamazoo County House, where there had been a case similar to ours, and several cases with one death subsequently. Unfortunately the patient from the County House died six days after admission and had not developed the eruption. It is possible that later developments may show that the disease reached us in some other manner.

In any epidemic characterized by atypical features one is hopelessly at sea, if he has had no actual experience with the disease and depends upon standard authors for diagnostic aid. This has never before been so clearly borne in upon me as in the present instance, and I think that an account of this epidemic, confined so far as possible to a consideration of such features as do not conform to text-book description, would be of the most value to the average physician.

I shall describe, then, in detail only, Case II., previously alluded to, which conformed more closely to the text-book description, and then proceed to the consideration of what I must regard as unusual features.

Three of our cases were semi-confluent on the face, all the others were discrete. This case, although discrete, was more severe in every way than any of the others. As before stated, she was taken suddenly ill and went off duty Saturday, June 15th. She had a temperature of 103.2°F. which rose later in the day to 105.2°F., complained of pains throughout the entire body, principally in the head and back. There was a slight chill late in the day, some nausea, vomiting and sore throat. June 16th, temperature ranged as high as 106.1°F., and was unaffected by ice-packs or the full bath at 60°F. There was pain in the epigastrium and at night some tendency to delirium. Diazo-reaction and Widal test negative. June 17: Slight eruption appeared this morning, one or two spots on the hand and one or two on the face. Temperature dropped suddenly to 102.8 F. and later in the day to 99.6° F. All other distress disappeared with the exception of epigastric pain which persisted a few hours longer. The eruption rapidly spread over the face, hands and greater part of the body, and on June 18th was vesicular. June 20: The face showed some edema and there was beginning conjunctivitis. The eruption caused some pain, otherwise the patient was comfortable. June 22: The eruption was very painful and the pustules were fully distended. They were opalescent in color and apparently at the height of their development. The course of the eruption was, first, discrete maculæ which later became papular, then vesicular, and toward the seventh day pustular. Some of the pustules were ⅜ inch in diameter and frequently they were umbilicated. They conformed in almost every way to the standard description, excepting that they could be ruptured with little effort, and, although as papules they were hard, consultants who examined them did not think they could be called "shotty" in character. Nor was I able to satisfy myself that any of them were multilocular. There were about 225 pustules on the face, neck and ears. On this day her temperature was 101.8°F. This case with one more were the only ones giving the secondary temperature. The eruption dried quickly, leaving no pitting, and the patient returned to her nursing duties in two weeks. No sequelæ of any kind have been observed. The vaccination done on the day of the appearance of the eruption gave some signs of "a take," but could not be considered typical.

The following cases are rather interesting by reason of their rarity.

Relapsing Variola.—Case XI., insane patient, was taken ill June 24th with the usual prodromes and three days later presented the typical papules on her face and hands. They became pustular and finally desquamated. She was classed as one of the lightest cases. On July 3rd she was taken ill again with a high fever, severe headache, backache, sore throat and two days later developed the eruption, beginning on her face and hands again, but this time covering the entire body. It was much more virulent in every stage of its course and in every one of its features than was the first attack.

Case XXXII. was also of this type. She was taken ill July 16th, nauseated, vomited, headache, backache and gastralgia. Fever was moderate, but her symptoms in general were light. Two days later she developed the eruption on her hands, over the back and lastly on her chest and face. Her case was classed as a light one. She was considered recovered July 24th. In the first week in August she was taken ill again with an initial attack of appendicitis which was treated medically and as her symptoms from this subsided she developed the pain, headache and backache of variola, and on August 7th the characteristic eruption appeared, but not in a more severe form than that of the previous attack. She had not been vaccinated until after the eruption of the first attack appeared.

I know that some are skeptical as to relapsing variola, but there is absolutely no doubt in my mind that such cases occur. Dr. W. De Lano, Health Officer of the City of Grand Rapids, who examined our cases, states that he also has had this year three cases similar to these and has heard of them in the practice of other physicians in the vicinity.

Variola; Second Attack.—Of this we had one case. Case XXVIII., nurse, was ill with variola in 1893 and there are several pits on the forehead still plainly visible. She had never been vaccinated. On July 15th she complained of general pain throughout the body, headache, sore throat, fever, nausea. One day later the eruption appeared on her face, chest and hands. It was discrete, but very well distributed and of medium severity. She was off duty twelve days and re-

ported that she had not felt so ill at any time as she did during her attack of 1893.

Variola Sine Eruptione.—Of this we had two cases. The first, that of the writer, is Case XXVII. July 14th the patient felt tired all day and toward evening noticed severe lumbar pain, which was thought to be due to a scuffle of a few days before or possibly to rheumatism. One or two full doses of salol were taken. At about 5:00 P.M. some faintness and nausea were noticed with cyanosis of the lips and finger-nails, but this was attributed to salol. In the evening there was a slight chill and then high fever which with increasing headache and backache persisted all night in spite of hydrotherapy. At the end of twenty-four hours there were one or two maculæ on the back and during the second day one appeared on the face and one on the hand. None of these became papular and all receded from view twelve hours after their appearance. Had been vaccinated with moderate result in June.

The second case, nurse, Case XLIX, of the epidemic, had been exposed to the smallpox and not successfully vaccinated. On Friday, July 26th, headache and backache appeared. The next day these symptoms were all aggravated. There was intense pain in the epigastrium and fever rose to 105.6° F. Sore throat was present on the third day. The fever began to subside on the fourth day, on the fifth was down to normal and no eruption had appeared. In two days more she was considered recovered and returned to duty. This case presented all the symptoms noticed in the average case and in my opinion was undoubtedly one of variola.

I shall now pass to the consideration of the peculiarities of the epidemic as a whole.

The Period of Invasion.—Curschmann,[1] Osler[2] and Whittaker[3] all speak of chills as being a prominent symptom. It was present in but thirteen of the fifty cases we reported. The fever is described by the same authorities as ranging from 103° F. to 104° F. In 15 of our cases, including some of those of the lightest eruption, the temperature was over 104° F., several over 105° F. and 2 reached 106° F. Almost all the authorities speak of backache as being a constant symptom and headache the next most often observed. Not one of our cases escaped the headache, while 90 per cent. reported backache or diffuse pains throughout the body. Sore throat was not a comparatively frequent symptom, there being 17 cases out of 50 in which it was present. Nausea was present in 14 and epigastric pain in 10. In spite of the high fever there was practically no delirium. The case just described was the only one presenting any such symptom.

The Eruption.—In orthodox smallpox as described by the authors previously quoted, the eruption is supposed to appear on the third day. In 30 of our cases it appeared before the end of the second day, in 5 on the first day, in 10 on the third day, in 4 on the fourth day, and one presented no eruption. Its location conforms to the usual description, appearing in 37 cases on either the face or the extremities first; in 9 on the ventral surface of the trunk and in 3 on the dorsal surface. It appeared in the throat in two and was observed quite generally on palmar surfaces. The early appearance of the eruption is said to be typical of varioloid, if indeed we accept such a term at all. Authors, however, who describe varioloid report a mild stage of invasion. Of our cases this certainly could not be said as with almost all of them was it remarkably severe.

The pustule itself may be said to be peculiar by reason of the fact previously noted that it often broke down easily and furthermore was unilocular, this latter point being one especially insisted upon everywhere as a reliable means of diagnosis between varicella and the vesicular stage of variola. In none of our cases did the pus exude from the pustule anywhere. Serum exuded from the top of the pustule, but never from the base.

Desquamation was a rapid process and in not one case, even in the semi-confluent ones, has there been any pitting. Attempts were made to remove pustules for sectioning with hopes of demonstrating the fibrinous partitions, but these failed, as in every case the only attachment found was that in the center producing umbilication. They all, at maturity, contained pus.

Microscopical examination of the pustule contents confirms the findings of Pfeiffer[4] referred to in the "American Text-book of Theory and Practice," and whose work forms the basis of recent investigations of Funck.[5] We have examined the pustule contents by his method in seven of our cases of variola, also the vaccinia pustules of two or three and a few tubes of vaccine, the characteristic organisms being found in all. It seems to me that this method of differential diagnosis could be made valuable, but I shall allude to it no further here as our investigation has not been carried far enough to justify a definite statement.

Vaccination.—Out of fifty cases reported, 17 had been vaccinated, but none of them recently. I am unable to state either, in the case of insane patients, whether or not the vaccination had been called a successful one. With some of them the scar was barely visible. Of those 17 cases, 3 had the eruption in its severest form, 3 medium and 11 light. Four of our cases, Cases XLV., XLVI., XLVIII. and L. had all been successfully vaccinated during this epidemic and with or following the development of the vaccination pustule the characteristic eruption of variola appeared. In the first case it was diagnosed as vaccinia eruption, but every one of the four followed the usual course of the other cases. In two or three of those the pustule on the site of vaccination may have arisen from the variolic infection. The imperfect vaccination sometimes described as the "mulberry" sore seems to confer a slight degree of immunity, but certainly not absolute. Several of our cases including that of the writer and another member of the medical staff demonstrated this.

Eight cases of different grades of severity in which there had never been vaccination were vaccinated after recovery from variola. No reaction.

Contrary to expectation we had not one infected arm among 1,450 insane patients. The only precaution we were able to take against this complication was the application of a homemade shield, which protected for a few minutes, a few hours or longer, depending upon the caprice of the wearer. A few of the employees had what were apparently infected sores, the cause of which has not been determined, as the same vaccine and the same method was used for all. With the exception of a few re-vaccinations we used the tube.

Other Observations.—There have been no sequelæ and no serious complications. Four of our cases complained of stranguary and were catheterized, 4 of dysphagia, 3 had severe conjunctivitis, in one there was a pustule on the conjunctiva, and in 2 there was a slight roughening of the cornea. All of the recoveries have been prompt.

There were no noteworthy heart symptoms, the only change being that due to the initial toxic state. There was no enlargement of the liver or spleen, and no symptoms referable to the digestive tract, excepting the initial gastralgia or occasional nausea and vomiting. Examination of the urine revealed nothing new or important. The diazo test was made in several cases both at the height of the fever and at the height of the eruption, but with negative results. Some of our insane cases were clearer, mentally, in or following the period of invasion and all, both nurses and patients, seem and profess to be feeling better than before the illness.

The treatment was begun with a few divided doses of calomel followed by saline. Plain milk or malted milk diet was given during the febrile period. We used no medicinal febrifuge, depending entirely upon cold water; the bath, pack, the moist girdle, throat and head compress, depending upon the case. During the period of eruption, the patients were sponged frequently with a 1:2,000 bichloride solution, and during the few hours when the pain was severe from distention of the pustules, the hands and face, which were the parts complained of usually, were covered with a few layers of gauze kept constantly wet with cold soda bicarbonate solution. As the eruption begun to dry it was anointed in the first cases with carbolized vaseline. In the latter cases we used ichthyol with enough lanoline to give it consistency. The application of silver nitrate and of pure carbolic acid to individual pustules was tried, but without any remarkable result. Our severest cases wore no bed-gown and were covered with one sheet only. Everything about the patient was kept scrupulously clean. Great care was taken with diet and bathing.

It is considered worthy of mention that in an institution of this size, the infection did not spread to the surrounding community. We know of no case in the city being traceable to this point and only two cases outside of the city. In both instances the epidemic went no further. Also, that the epidemic was checked so promptly as it has been here, there having been as is shown by the table only six cases since the vaccination, and finally the fact that although most of those affected were insane we have had neither pitting nor complications.

REFERENCES.

[1] Curschmann. Ziemssen's Cyclopedia of Practice, Vol. II., p. 219.
[2] Osler. P. 96.
[3] Whittaker. American Text-book of Practice, p. 261.
[4] Pfeiffer. American Text-book of Practice.
[5] Funck. Deutsche med. Wochenschrift, 1901, XXVII., p. 130.

RECTOCOLITIS.[1]

BY WILLIAM M. BEACH, A.M., M.D.,
OF PITTSBURG, PA.;
SECRETARY OF THE AMERICAN PROCTOLOGIC SOCIETY.

By the term rectocolitis, I mean a condition of the rectum and colon that generates functional derangements consequent upon varying degrees of inflammation of its mucous membrane.

The importance of the subject cannot be overestimated since it is known how significant are its symptoms, extensive its reflexes and difficult its treatment. To consider properly the treatment of chronic rectocolitis it is necessary to note briefly, at least, the structure of the organ involved, pathology and symptoms.

The anatomic elements to be noted in this connection are (1) the gut itself, (2) its auxiliary structures. The colon from the cecum to the levator ani muscle is a tortuous, mobile tube of varying caliber, consisting of four coats and anchored to fixed points by a mesentery. The mucous membrane consists of epithelium upon a basement membrane in which exist inverted depressions lined with columnar epithelium, and known as the glands of Lieberkühn, with here and there a solitary follicle—all for the purpose of supplying a lubricant to facilitate the passage of feces. The surface has powerful absorbent properties. The submucous coat is a carrier for vessels and nerves, the muscular coat, circular and longitudinal, is the source of the peristalsis, this in turn is covered by the peritoneal coat which serves as an anchor. The colon is surmounted along the greater part of its length by two or more fibrous bands, by its axis which gives it a sacculated appearance. These bands are said to be composed of the longitudinal muscular fibers and are called teniæ.

The auxiliary structures consist of the blood- and nerve-supply, the proper consideration of which will clearly demonstrate the cause of many reflexes that follow in the trail of pathological change in the rectum. The blood-supply to the colon is derived from the superior and inferior mesenteric arteries. The veins from the different portions of the colon join the inferior and superior mesenteric branches of the portal system. The rectum has a special blood-supply from three

[1] Read before the American Proctologic Society, St. Paul, 1901.

diverse sources—the superior rectal from the inferior mesenteric; the middle rectal from the anterior root of the internal iliac; and the inferior rectal from the internal pudic artery. The rectal arteries pass parallel to one another toward the anus, and freely communicate by large transverse branches. The veins are similarly arranged, and form the hemorrhoidal plexus about the lower end of the rectum. The main trunks from the latter are the superior hemorrhoidal veins, tributaries of the inferior mesenteric vein, and the middle and inferior rectal veins which terminate in the internal iliac veins, so that the portal and general venous systems intercommunicate. To this fact is chiefly attributed the tendency of the anal veins to become varicose and to the formation of piles; and a further contributing factor is an obstructed portal circulation arising from a torpid or diseased liver. The colon and rectum are well supplied with lymphatic vessels, so that it is readily understood how easily patients may suffer from the absorption of ptomains through a diseased mucosa, made so by fecal residue retained by obstructed passage.

The nerve-supply of the colon is derived from the superior and inferior mesenteric plexuses of the sympathetic system. The nerves of the rectum are derived from the inferior mesenteric, hypogastric, and sacral plexuses. So that peripheral irritation due to rectocolitis may be reflected to distant points and organs, as well as various other pelvic organs, as urethra, ovaries, uterus, vesiculæ seminales.

We may consider rectocolitis in any of the following stages, omitting malignant diseases: (1) *Congestion;* (2) *atrophic catarrh;* (3) *hypertrophic catarrh*; (4) *ulceration.*

Simple congestion due to engorged blood-vessels may be ephemeral in duration and express itself locally in the form of dysentery and tenesmus, the glands becoming excited and developing an enormous quantity of mucus. Of course, if this condition continues, it becomes chronic, developing usually the hypertrophic catarrh; the epithelium is shed, the valves are swollen and thickened, plastic material is thrown out with consequent narrowing of the rectal straits, and there is diarrhea alternating with constipation.

Atrophic catarrh, on the other hand, is usually accompanied by the constipated habit—a dry, hard stool and minute anal fissures; secretions are insufficient on account of gland impairment. Atrophic rectocolitis is rare.

The ulcer is the culmination of the inflammatory process, but, I believe, rarely occurs above the sigmoid flexure; in other words the process rarely goes beyond the catarrhal stage. The points of predilection for ulcer are the cecum, flexuses and rectum, but clinical experience teaches me that, for the most part, the disease is confined to the sigmoid flexure, since that region is the reservoir of the fecal contents in course of expulsion. Owing to the peculiar and extensive blood-supply, the rectal mucosa is prone to congestion and inflammation; and it is not improbable that all the coats of the bowel may be involved, extending to the peritoneum.

The symptoms of rectocolitis are (1) local or physical and (2) constitutional or rational. In acute dysentery or "bloody flux," large quantities of jelly-like mucus, with blood, appear in the stool, accompanied by severe straining and tenesmus. Chronic hypertrophic catarrh produces shreddy casts of long or short pieces that are sometimes tinged with blood, stools irregular, etc. Inspection reveals thick and rigid valves, their margin at times denuded of its epithelium, red and inflamed, and the touch of an instrument evokes severe pain in the back according to the nerve-center disturbed. For the same reason the symptoms of rectocolitis are referable to the uterus, mouth of the urethra, ovaries and stomach. Constitutional symptoms occur through the absorption of ptomains from retained feces and gas, which results in severe and constant headaches, especially post-cranial and cervical, nausea, anorexia, fermentations, pains in back and vague pelvic and abdominal discomfort; the patient tires easily and is greatly depressed; the extremities are cold; the pulse is weak, indicating great nervous exhaustion; in short, the patients become confirmed neurasthenics. However, their physical appearance is that of good health; hence, they derive little sympathy from their friends.

From the standpoint of the proctologist, is rectocolitis curable? To answer this question, we must bring to bear our clinical experience. Tuberculosis, syphilis and rheumatism as causal factors are excluded from this discussion, as we wish to limit our consideration to the catarrhs of local origin—as from constipation, fistula, hemorrhoids, polypus, and disease of the rectal valves. Mathews has cured rectocolitis due to a submucous fistula five inches up the rectum. Bodenhamer has cured the disease by the simple removal of hemorrhoids. Martin has obtained satisfactory results by removing intrarectal obstructions. Others have reported cures from high injections of hot water, oil or various antiseptics and astringents, as iodoform, boric acid, hydrastis, krameria, nitrate of silver, etc. And yet there are cases that resist any of these measures, except as a temporary relief.

I believe many patients can be cured by such measures, but there is one type to which I would especially call your attention, namely, congenital or functional narrowing of the rectosigmoid strait. In many of these cases the spasm is so strong when the instrument touches the inflamed surface that the strait is entirely closed; in others there is prolapse of the sigmoid, and a great deal of dexterity is required to pass an applicator, and then to the great distress of the patient. In February last a neurologist sent me a patient whom he had been treating for spinal irritation for some time, believing he had some rectal trouble. Examination revealed piles and proctoscopy a very sensitive rectum covered with glairy mucus, the sigmoid strait narrow and spasmodic with great pain at the upper part of the sacrum. I

have treated him twice a week since, with the result of marked amelioration of headache and backache. In this class of cases I begin with a daily administration of a saline, preferably Apenta, a half-tumblerful given at night. Once daily a large injection of hot water; then through the proctoscope I mop the entire surface with sweet oil, and through a narrow tube attached to a Davidson syringe I throw a half-pint into the colon while the patient is in the Martin posture. This is continued for from one to three weeks, or until the peristalsis and tenderness subside, when I substitute for the oil mildly astringent solutions with rectal massage. The atomizer is a useful instrument for making these applications. Massage with a divulsor of two blades should be practised from every third to fifth day, in order to reduce the valves, to be followed by the spray. Various remedies are suggested, such as nitrate of silver, 3 grains to the ounce; albolene and hydrastis, equal parts with water; but I find in protargol, 15 grains to the ounce, a sovereign remedy.

Rectocolitis due to mechanical obstruction or irritation, as a retroverted uterus, pelvic adhesions and tumors, can only be relieved by removal of the cause. Obviously the first indication in the line of treatment is to remove the débris, the product of the inflammatory process in the form of membranous casts, mucus, etc.; in other words, clear the field of operation as far as possible, so that the remedies locally applied may be efficacious. Abrasions and pin-point denudations of epithelium should be touched with pure carbolic acid or solution of silver nitrate. This treatment is usually followed by a profuse discharge of mucus and at times some blood is passed. If, however, the mucosa presents a deeply injected appearance, bland remedies, I believe, are more efficient, such as the oils—albolene, for example, sprayed over the entire surface. I have had patients express the most profound satisfaction following such an application, which relieves all the reflexes.

When the rectum becomes more tolerable to instruments, I use a two-bladed divulsor wrapped with cotton, for the purpose of reducing valvular hypertrophies, and thus relieve the obstruction, for those patients usually suffer from coprostasis and retention of gas.

To correct the intestinal secretions and allay neurotic symptoms, resort must be had to certain internal medication. Though the nervous element is secondary to the rectocolitis on account of poisoned nerve-centers by auto-intoxication, it becomes the object of special treatment. Depurative and sedative agents must then claim our attention. Anemia usually accompanies rectocolitis of long standing. For the altered secretions, some salt of mercury stands pre-eminent. Legitimate associates are cascara sagrada, podophyllum, stillingia and rhubarb. Minute doses of blue mass, ⅓ grain, or bichloride of mercury, $^1/_{10}$ grain, before meals, are effective with daily doses of Apenta. A favorite prescription to meet the indications of faulty intestinal secretion, nervousness and anemia, consists of the following:

℞ Ferri sulphat. exsic.
Ext. hyoscyam., aa.....3ss
Ext. nuc. vom.
Pulv. aloes.
Pulv. mass. hydrarg., aa.....gr. viiss

Ft. capsules No. 30. Sig. A capsule before each meal.

By relieving the portal circulation, congestion of the rectal vessels would subside. The patient should be put to bed for two weeks and a light diet enjoined, consisting of broths, fish, eggs, lettuce, celery, and rhubarb in season. A daily bath and alcohol rub will promote nervous equilibrium. At the end of two weeks, the patient is not so nervous, can sleep, the appetite is sharpened, his evacuations become more regular, and the quantity of mucus less. Local treatment has been given daily as above indicated. The patient should be free from care and his environment made pleasant as possible. A morning walk and drinking large quantities of water should be encouraged.

Rectocolitis due to polypus, hemorrhoids, fistula or stiff valves is to be cured by the removal of these conditions. Constructive remedies are to be employed, such as strychnine and iron. The prognosis for ultimate recovery from rectocolitis must be guarded, for the treatment may extend over several months and even years, since certain cases resist most appoved measures, both local and systemic. The majority of cases can be cured by the management just outlined.

Conclusions.

1. Rectocolitis is a condition of the rectum and colon of varying degrees of inflammation.
2. A knowledge of the anatomical bearings of the rectum and colon is necessary to understand the symptoms and reflexes.
3. The symptoms are local and systemic.
4. Rectocolitis may be catarrhal or ulcerative.
5. It may be acute or chronic.
6. When dependent upon polypus, hemorrhoids, fistula, etc., the cure depends upon their removal.
7. Chronic rectocolitis due to altered secretions, anemia, and congenital narrowing of the sigmoid strait, is difficult to cure.

Home Office Building.

Schede's Operation in Chronic Empyema.—Two cases of serial resection of pleura, ribs and intercostal muscles for the cure of chronic empyema are reported by BOUGLÉ (*La Presse Méd.*, Oct. 30, 1901). The ribs were removed successively from below upward; in one case the eighth, seventh and sixth, each in turn, and in another the ninth, eighth and seventh in one operation and the sixth and fifth afterward. Both patients were cured. Bouglé emphasizes the utility of the U-shaped incision and the necessity for the suppression of the costo-diaphragmatic cul-de-sac.

MEDICAL PROGRESS.

Pathology of Ringworm.—Although ringworm was the first disease to be definitely traced to the action of a vegetable parasite, but little advance has been made with respect to the knowledge of the pathological changes produced. Divergence of opinion exists as to whether keratin is attacked chemically by the causative parasite. W. D. EMERY (*Jour. Path. and Bac.,* Nov., 1901) has investigated the chemical action upon keratin of the *microsporon audouini.* This parasite was selected as being the most common ringworm fungus in England. He shows that this organism possesses no power to digest this substance, to alter its solubility, or to obtain from it the pabulum necessary for growth. Under normal conditions this parasite obtains its nourishment solely from the proteid material present in the hair-follicle and the hair itself. Many factors enter into the causation of the loss of hair in ringworm. By mechanical effect the peripheral fibers of the hair are split off by the spores which have invaded it. The parasite obtains the amount of water necessary for its growth at least in part from the hair, which thus becomes fragile. The fungus exerts a considerable amount of pressure upon those parts of the hair which are contained within the follicle; this operates powerfully upon the hair root and causes an interference with the formation of new hairs. The toxins produced by the parasite set up a folliculitis of a slight grade; this also interferes with the formation of new hairs. It is thus seen that the fungus acts both mechanically and chemically, but that the latter action is not exerted upon the keratin of the hair shaft.

Cardiac Neuroses.—As symptoms of functional disease of the heart, A. PICK (*Wien. klin. Rund.,* Oct. 9, 1901) mentions a moderate struma, involving chiefly the right lobe of the thyroid and without pulsation or thrill, increased irritability of the heart manifesting itself by tachycardia on slightest exertion, dermographia, so that on irritating the skin, pallor, then reddening often lasting two hours and sometimes with urticaria, followed, hypertrophy of the left ventricle, inequality of the pupils, dependent upon dilatation of the right pupil, which however readily reacts to light, anesthesia of the pharynx, increased reflexes, hyperidrosis in the axilla, hippus, tremor of the fingers and the closed eyelids, arhythmia and Erben's pulse phenomenon. This latter consists in a slowing of the pulse on stooping forward, followed after 3-6 beats by an increased frequency. In some of the cases of pure cardiac neurosis examined there was a close resemblance to Basedow's disease, but exophthalmos, Graefe's or Stellwag's sign were never seen.

Pancreas in Diabetes Mellitus.—The probability that the peculiar structures in the pancreas known as the islands of Langerhans play an important part in carbohydrate metabolism has some time since been pointed out. Recent observations upon the pancreas in relation to diabetes mellitus have given this idea strong support. In examining fourteen cases of chronic interstitial pancreatitis Opie found these islands affected in four. In all of these but one diabetes mellitus was present. None of the other ten showed a diabetic condition. The idea generally prevalent at the present time is that, although diabetes mellitus is not always associated with alterations in these islands, such alterations are invariably accompanied by a diabetic condition. In view of the importance of this subject in relation to the pathology of diabetes new observations along this line are of great interest. Such come from JAMES H. WRIGHT and ELLIOTT P. JOSLIN (*Jour. Med. Research,* Nov., 1901). They examined the pancreas in nine cases of diabetes mellitus. From each case a section from one to three places in the gland was examined. Hyaline changes in the islands of Langerhans, similar to those described by Opie, were found in two of these nine cases. The remaining seven showed no definite lesions of the pancreas except one in which an exudate of fibrin and leucocytes was present. Of those cases which showed alterations of the islands in one there was also present a small area infiltrated with polynuclear leucocytes and microscopic fat necrosis. The other was extensively invaded with fat tissue. The changes observed in these two cases are in favor of the hypothesis that lesions of the islands of Langerhans are important factors in the pathology of diabetes mellitus.

Suprarenal Diabetes.—A substance is found in the suprarenal glands which may cause glycosuria if it enters the circulation. This is the statement made by F. BLUM (*Deut. Arch. f. klin. Med.,* Oct. 31, 1901) and based on the results of his investigations on the influence of suprarenal extract on metabolism. His experiments were made on a series of twenty dogs and three rabbits, all healthy animals with no previous traces of sugar in urine. He employed a watery sterilized extract of the suprarenal glands of calves or sheep, injecting the same subcutaneously or intravenously, the former being preferable because less apt to cause complicating symptoms due to extreme rise of blood-pressure. Sugar always appeared in the urine in varying amounts, up to 3.8 per cent, until the death of the animal, and this not only in the total absence of a carbohydrate diet, but also in starved animals where all the glycogen in the liver had probably disappeared. The question remains whether the suprarenals have any influence in the diabetes of the human subject. Glycosuria is undoubtedly due to a toxic effect on those organs which are concerned with carbohydrate metabolism. We may believe that the suprarenals have a function analogous to that of the thyroid gland, the removal of a free poison from the circulation. A total failure of this act might

possibly cause Addison's disease, a partial one glycosuria or diabetes.

Changes in the Pulse in Diseases of the Alimentary Tract.—The relations between stomach and intestine on the one hand and heart on the other are manifold. G. SINGER (*Wiener klin. Rund.*, Oct. 9, 1901) draws attention to the bradycardia of ulcer and ectasia of the stomach, jaundice and typhoid, and the increased cardiac activity, paroxysmal tachycardia, palpitation, unrest and tendency to congestions so often seen in dislocations of the stomach and colon. In chronic constipation and atony of the colon there often is arhythmia and considerable stress is laid upon the occurrence of true intermittence of the pulse in these conditions. All these phenomena are best explained upon the theory of auto-intoxication, especially since the free use of intestinal antiseptics generally removes them.

Acute Intestinal Obstruction following Appendicitis.—The dreary fact that this condition is a late consequence of otherwise successful operations for appendicitis is more and more plain. L. W. HOTCHKISS (*Annals of Surg.*, Nov., 1901) reviews three cases and sums them up in the following terms: (1) The great utility and necessity for the free use of decinormal salt solution injected beneath the skin, into the rectum or into the veins during or after the operation as a guard against extreme shock; two of his cases were probably saved by not only free but continued use of it; (2) the great value of free incision into over-distended coils of gut in order to relieve upward pressure against the diaphragm with its disturbance of respiration and circulation; in order to relieve intestinal congestion and distention so that they can be handled without injury and the obstruction located and removed, and in order to drain away the poisonous, stagnant fluid contained in the gut which would otherwise be absorbed; (3) the wisdom of closing the abdomen without drains and of leaving within the cavity sufficient salt solution to float the intestines and assist, perhaps, in their rearrangement. This much for the broad detail of the operation. The after-treatment possesses three essential features also, as follows: Persistent and intelligent lavage; early and, if necessary, repeated administrations of concentrated saline purges introduced through the stomach-tube if retained in no other way; the relief of intestinal gas by means of the rectal tube and of high enemata patiently, persistently and rationally given. A fourth detail should be named, *viz.*, absolute abstention from the use of morphine. The author states that the above are sure guides through this difficult field in surgery.

Pathology of Pellagra.—In 1864 attention was first drawn to the changes in the spinal cords of pellagrous patients. It was not, however, until 1893 that much light was thrown upon the pathology of this disease. At that time Tuczek demonstrated sclerosis of the posterior columns and columns of Goll in all the cases which he examined. The most recent researches in this disease come from F. M. SANDWITH (*Jour. Path. and Bact.*, Nov., 1901). He examined post-mortem three fatal cases of pellagra. All of these had been pellagrous for some years, but eventually died from other causes, the first of cerebral hemorrhage, the second of a complicating chronic nephritis, the third of acute pericarditis. In the first case there was some degeneration of the posterior columns, as shown by Pal's method. The posterior median columns were unduly pale. The second case showed marked degeneration of the posterior columns which was evidently of root origin. There was an increase of the connective tissue in the area of the affected roots and some thickening in the walls of the arteries. The third case showed practically no change except some slight alteration in the medullated sheath of certain fibers, as shown by the blue black method. That the process is essentially a chronic one is shown by the fact that, although the posterior columns are sclerosed, no degeneration can be shown by Marchi's method.

Congenital Narrowing of the Aorta.—It may be positively stated that a diminution in the caliber of the aorta is a frequent cause of disease, as proved by numerous anatomical and clinical sequences. These have been carefully studied by BURKE (*Deut. Arch. f. klin. Med.*, Oct. 31, 1901) and his results are summarized as follows: (1) Anatomical changes in the (*a*) heart—a left sided hypertrophy, to which may subsequently be added dilatation of left ventricle and auricle, signs of chronic pulmonary congestion, hypertrophy and perhaps dilatation of right ventricle; (*b*) in the arteries—an arteriosclerosis in young subjects as an expression of a long-continued elevation of blood-pressure. (2) Clinical appearances—paleness of face, a feeling of oppression in chest, cough with catarrhal expectoration, signs of dilatation, hypertrophy and insufficiency, expansion of the boundaries of the lungs, a chronic bronchitis, increasing weakness of the right ventricle, enlargement of the liver, albuminuria, general edema. The number and character of these symptoms depend on age, sex, occupation and habits. In women there is apt to be a primary or even a pernicious anemia, whereas secondary changes in the heart are usually absent. Probably the diminution in the volume of blood serves as a compensation for the increased resistance encountered in the aorta. This is not so apt to be the case in men, hence, the picture here of actual cardiac disease. Etiologically, two causes are proposed for this narrowing—it is either a purely congenital condition or else due to a retardation of the aortic system during the growth of the remainder of the body.

Parotid Tumors.—Any point which aids in the clinical diagnosis of any question is worthy of accurate note and probably no class of diagnosis is more difficult than that of tumors. New

growths of the parotid are rather more lawless than elsewhere, says H. T. BUTLIN (*Lancet*, October 19, 1901), but after all present a tendency in common to all rather consistently, which is that the malign always produce sooner or later paresis or paralysis of the facial nerve. Billroth tried to distinguish sarcoma from carcinoma by the fact that the latter produces and the former does not produce such nerve lesions. His error probably consisted in regarding such tumors as sarcoma which to-day are regarded as probably benign, though highly irregular in type of cell-arrangement. Within Butlin's observation the rule holds good that whenever a tumor has affected the facial nerve it has done so by infiltration in contiguity and not by mere mechanical pressure. Such infiltration in contiguity is in accord with the manner in which malign growths spread elsewhere in the body, and hence the deduction is rational that such a sign in the parotid region foretells the cancerous character of the neoplasm.

Pseudoclumping of Typhoid Bacillus.—An ordinary young culture of the typhoid bacillus in broth shows the bacilli all separated and in active movement. All observers, however, who have worked with typhoid cultures have observed broth cultures of this organism which, while showing many bacilli active and free show others arranged in clumps which closely simulate those met with as the result of specific typhoid agglutinins. These are the so-called pseudoclumps and much speculation has been indulged in with respect to the factors which underlie their formation. Some hold that mechanical causes are prominent, in that foreign material to which the bacilli attach themselves is present in the culture. Others have thought that certain products produced by the organisms themselves are responsible for these formations and have therefore reasoned that the "agglutinins" are not the products of the body cells. W. G. SAVAGE (*Jour. Path. and Bact.*, Nov., 1901) has exhaustively considered the subject. As the result of his work it would appear that mechanical factors play no part in the formation of these pseudoclumps. All evidence is against the fact that such are formed through the agency of any product of the bacillus itself. There is marked evidence to show that certain races of typhoid bacilli are especially prone to form pseudoclumps. Such a peculiarity is extremely difficult to eradicate when it is present. Certain peculiarities of the Liebig's extract or meat used to make the broth have an influence upon this formation. The chief difference between pseudo- and true clumps is the absence of all lysogenic action in the former. The practical deduction is that in all tests of blood or serum for the presence of specific "agglutinins" proper controls should be instituted.

Immediate Death Due to Spinal Cocainization.—Without intending to reopen the discussion as to the value of spinal cocainization, a method of anesthesia which he has hitherto practised and advocated, F. LEGUEU (*La Presse Méd.*, Nov. 9, 1901) considers it to be his duty to report two recent cases in which death followed the injection of cocaine into the spinal canal, within a few minutes. The technic, the dose and the cocaine solution used were the same as were utilized with success in cases preceding and following those which were fatal. The cocaine which caused death was analyzed and found to be unaltered. Operation was proposed in one of the two instances for rupture of the patellar ligament, and in the other for strangulated inguinal hermia.

Widal Reaction in Children.—The value of the Widal reaction in diagnosing the presence of typhoid fever in adults is now no longer disputed, but it has been urged by some that the reaction is not so constantly found in children. M. GERSHEL (*Med. Rec.*, Nov. 23, 1901) reports the results on 84 cases of typhoid fever and 115 cases of various febrile diseases, such as meningitis, tuberculosis, pneumonia, endocarditis, etc. In the 84 cases of typhoid, ranging from one and a half to fourteen years of age, 81 cases gave a positive result. In 115 cases of fevers other than typhoid the positive reaction was never obtained. The reaction did not occur later in children than in adults, as is claimed by some writers, but on the contrary somewhat earlier. The reaction is of even greater importance in children than in adults, owing to the frequent occurrence of atypical forms and the greater frequency of cases resembling pneumonia and meningitis. The main facts concerning the Widal in children are the same as those which hold true for adults.

Deductions Concerning Milk Modification.—The main efforts of milk modifiers have been directed to the reduction of the so-called casein, and to the replacement of the fat, which is diminished unduly when the proportion of casein is reduced by dilution. The so-called casein of milk consists of caseinogen in lactalbumin these being found in equal proportions in human milk, but in the proportion of six to one in cow's milk. R. C. MACDONALD (*Boston Med. & Surg. Jour.*, Nov. 21, 1901) suggests that intelligent milk modification must endeavor to raise the proportion of lactalbumin. Again, in cow's milk phosphorus exists mainly in inorganic (mineral) compounds; in human milk phosphorus is found chiefly in organic combination, and, while the inorganic compounds are practically non-assimilable, the organic compounds are readily taken up by the human system. Both the important deficiencies just mentioned can be overcome to some extent by the judicious use of the whole egg; egg albumin quite closely approximates lactalbumin and in the egg yolk there exists a veritable storehouse of organic phosphorus.

Specific Nature of Rabies.—In reply to an article written by C. W. Dulles last July denouncing the theory that rabies is due to a specific germ and that the Pasteur treatment is use-

less, D. E. SALMON (*Med. Rec.*, Nov. 23, 1901) shows the fallacies in the above arguments and expresses regret that a man of such wide experience and so much influence as Dr. Dulles should fail to recognize the truth of scientific investigation. A very important piece of evidence to show the infectiousness of rabies is the fact that the disease has almost entirely disappeared in England since the law compelling dogs to be muzzled has been rigidly enforced. When the enforcement of this law is left to local authorities it is seldom properly accomplished. The history of the disease in England and Scotland is very interesting and valuable. For several years the Board of Agriculture successfully enforced the law in the affected districts and the number of cases was much diminished, but, when each district managed its own affairs and respected too much the individual rights, the number of cases enormously increased to 672 in 1895. The Board of Agriculture again took charge and the number of cases has steadily decreased, so that only six occurred in Scotland and England during 1899 and none in 1900.

Pyopericarditis. — Idiopathic pericarditis probably never exists, inflammation of the pericardium being always a secondary affection. It may be found as a complication of any disease which introduces into the circulation either toxic material or infectious germs, or it may result from neighboring inflammatory lesions, the nature of the exudation depending upon the original cause. In rheumatism and in Bright's disease we find a serous effusion; in cancer of the lung or tuberculosis, more commonly a hemorrhagic exudate; in septic troubles and pyemia pus is usually to be feared. H. O. COLLINS (*N. Y. Med. Jour.*, Nov. 16, 1901) mentions among primary causes of pyopericarditis abscess of the mediastinum, caries of ribs or sternum, Pott's disease, cancer or abscess of the lungs, empyema, cancer or abscess of the esophagus, inflammation of the breasts, and bronchopneumonia in addition to the various systemic septic diseases. In regard to diagnosis the marked dulness in the fifth right intercostal space is of great importance in distinguishing a dilated heart from a pericardial effusion. Four methods of operating have been suggested—aspiration, simple puncture, incision through an intercostal space, and incision with the resection of one or more ribs and drainage. The latter more radical method is undoubtedly the best in all cases of pus in the pericardium, for irrigation and drainage which are essential to cure can be obtained in no other way. The operation has usually been done on the left side, either the fourth and fifth or the fifth and sixth costal cartilages being resected. The pleura and the internal mammary artery are to be carefully avoided. The right side has recently become a favorite site, as better drainage can probably be obtained on that side.

Rapid Anesthesia by Ethyl Chloride.—Anesthesia is obtained in from twenty to forty seconds by a method described by A. MALHERBE (*La Presse Méd.*, Oct. 30, 1901); from two to four grams of ethyl chloride are used. The anesthetic is poured on a simple compress, which is then hermetically applied to the nose and mouth of the patient, all air being temporarily shut out. The narcosis which follows lasts for three or four minutes. If a more prolonged anesthesia is desired the process is repeated. Owing to its simplicity and to the absence of disagreeable sensations ethyl chloride is also used as a preliminary to chloroform anesthesia in operations of very long duration.

Facts Concerning Pleural Exudates.—The prevailing theory in regard to the final disposition of the cellular elements in pleural exudates pictures a process of fatty degeneration followed by absorption of the fatty detritus. A. WOLFF (*Berl. klin. Woch.*, Nov. 11, 1901) shows that this process is by no means invariable. The theory that such a process always takes place arose from the study of unstained preparations; it is impossible to distinguish unstained nuclei of "mastcellen" and eosinophiles from fat droplets. Fatty degeneration of the leucocytes of pleural exudates does however occur; in comparatively fresh cells glycogenic degeneration also takes place, the two processes being in a sense opposed to each other. Both fat and glycogen are derived from the same carbohydrate source.

The Psychoses of Chorea.—Insanity in the course of true Sydenham's chorea does not often occur; at any rate, it is rarely referred to in medical literature. Choreas which are accompanied by mental disturbance later in life are almost always associated with organic changes in the central nervous system. In a majority of cases of Sydenham's chorea, according to H. N. MOYER (*Jour. Amer. Med. Assoc.*, Nov. 23, 1901) a well-marked alteration of character and mentality can be noted some weeks preceding the onset of choreic movements. Mental disturbance of the type of melancholia, mania or acute delirium, usually comes on after choreic movements, but may precede them. Such disturbance is commoner in older children than in those under twelve years of age. The prognosis is favorable when mental disease complicates the simple, acute chorea of Sydenham, unfavorable in the choreas of middle and advanced life on account of the organic changes present.

Ventroscopy by the Vaginal Route.—One of the claims in favor of abdominal section and against the vaginal route in gynecology is the fact that the latter operation affords no chance of inspecting the contents of the abdomen. D. DE OTT (*La Sem. Méd.*, October 30, 1901) seeks to overcome this by placing the patient in what is practically a Trendelenburg posture with the exception that the lithotomy position of the lower extremities is still maintained. With the trunk in this position and the vagina open, with the aid of electric light and tubes he has suc-

ceeded in gaining a very good view of most of the organs of the abdomen. He claims that he has been able to examine as high as the stomach, the liver and the gall-bladder in this manner. The method is ingenious and certainly worthy of trial.

Research of Biliary Acids.—The classical methods for detecting the presence of biliary acids are inadequate to show the presence of these substances when present in small amount in organic liquids. Recently M. G. MEILLERE (*Comptes Soc. Biol.,* Nov. 1, 1901) has shown that minute quantities of these acids can be demonstrated when present in urine by adding one per cent. of sulphuric acid and agitation with a great excess of sulphuric ether, acetic ether or chloroform. When urinary pigments soluble in ether are present it is necessary to remove or decolorize these. This may be accomplished by the addition of ten drops of basic acetate of lead and subsequent treatment with hydrogen sulphide. A decolorized liquid is thus obtained. This process of decolorization may be practised before or after treatment with the ether. In searching for these acids in serous fluids the albumin must be coagulated by heat and the addition of four parts of alcohol together with a few drops of trichloracetic acid. The coagulum is then washed in hot alcohol in order to remove the taurocholic acid which the albumin energetically holds. This is then evaporated and the residue treated as above described.

Genital Tuberculosis in Woman.—An exhaustive thesis on this subject by M. GOROVITZ (*Rev. d. Chir.,* Oct., 1901) is concluded as follows: (1) Genital tuberculosis in woman is much more frequent than was formerly thought. This is proved only by histological and bacteriological examination by inoculation in cases which formerly might have escaped diagnosis; (2) it is often secondary, sometimes primary. In the primary cases it is only by careful examination that the diagnosis can be proved; the disease may affect the mucous membrane of the womb or of the tubes; (3) by clinical facts and by surgical operations it has been learned that this tuberculosis of the tubes excites in the peritoneum more or less active trouble and in particular a special form of inflammation accompanied by the formation of small cysts; (4) it is therefore necessary in opening the abdomen of women who have a tuberculosis peritonitis to examine the tubes and see whether they are or are not the source of the disease; if they are, they should be removed; (5) such removal should always be made by the abdominal route because the extirpation should be wide and the abdominal wound large enough to permit treatment of the disease elsewhere; (6) from the standpoint of origin of the disease it may be said that it may be a descending or an ascending affection, the former being the more frequent; (7) it is clinically proven that infection may be carried by the spermatozoa of consumptive patients; (8) experimental researches show that living tubercle bacilli deposited on a mucous membrane without wounds may easily cause the disease.

Auscultation of the Pulmonic Apices in Young Infants.—The presence of a certain acoustic anomaly in the apex of the infantile lung has been considered by the majority of clinicians an indubitable symptom of incipient phthisis, writes ALFREDO VILLA (*Revista Critica di Clinica Médica,* Nov. 9, 1901). Repeated observations prove that this phenomenon has not always the significance which is generally attributed to it. It has been found that crepitant râles, with harsh breathing, are frequently heard at the apices of infants' lungs if auscultation is practised after a prolonged recumbent position, with the head low. These rôles may be considered physiological and are indications of atalectasis due to imperfect expansion. They disappear when the respiratory function is fully established.

Syphilitic Joint Inflammations.—The diagnosis of this condition is difficult, because the signs of the disease often disappear under treatment. Dr. BORCHARD (*Deut. Zeitsch. f Chir.,* Sept., 1901) draws the following conclusions from his observations: Acute syphilitic joint inflammation, with water and swelling of the capsule, consists in nothing but the evidence it gives of the share the joint proper is having in the general acute infection of the disease. Such may naturally arise whenever the poison has manifested itself with very active secondary symptom everywhere in the body; (2) on the other hand, the more permanent syphilitic diseases of the joints, such as appear in the third period of the disease, must necessarily be of the order of gumma or of chronic productive inflammation; (3) these products have their situation in the synovium, the subsynovial tissues and in the cartilages. The increase in the number of cells is not a consequence of a chronic hydrops or of a fibrinous deposit on the synovium, but is due to the growth of small miliary gummata. These gummata are really the cause of those thickenings of the joints which may often be seen in life. He further believes that an acute hydrops in this disease can, without further cause, become chronic. The cause of it seems to be in such a case always the growth of miliary gummata. Every hydrops in the third stage and in the congenital forms of disease is probably due to the same state of affairs, *viz.,* the growth of gummata in the synovium, the parasynovial tissue and in the cartilage.

The Pest Bacillus and Serumtherapy.—In the artificial cultivation of the pest bacillus it should always be borne in mind that this organism grows best at temperatures below 25° C. The most favorable being between 22° and 24° C. The incubator temperature (37° to 38° C.) should always be avoided as oftentimes no growth is obtained, at this temperature, upon

artificial media. The growth upon potato is characteristic. When grown upon this medium at 15° to 20° C. a greenish-white layer is formed in from four to six days. The above points are emphasized by M. J. LIGUIERES (*Ann. de L'Ins. Pasteur,* Oct. 25, 1901). In regard to serum-therapy, the Roux-Yersin serum has proven very efficacious in his hands when employed in large doses and inoculated intravenously. From forty to sixty cubic centimeters of the serum should be so inoculated and followed in from twelve to twenty-four hours by a subcutaneous inoculation of twenty or forty cubic centimeters. The intravenous inoculation must be practised with great care only slight pressure being used. It must be discontinued if suffocation or cyanosis appear. Preventative inoculations produce no notable reaction.

Surgical Asepsis and Antisepsis.—With the view of determining the value of antiseptics in surgical work, and to what extent asepsis of the operative site and wound could be obtained, GANGITANO (*La Riforma Médica,* Oct. 7, 1901) made a series of experiments, with the following findings: (1) The skin cannot be made absolutely sterile, as the deeper strata remain septic, despite all aseptic and antiseptic measures. (2) A pack of soft soap or a one-per-cent. solution of formalin applied the day before operation renders the superficial skin sterile in 30 per cent. of all cases. Bichloride produces sterility but once in ten times. (3) Sutures become infected in their passage through the deeper layers of the cutaneous tissue, as shown by cultures from sutures passed through skin which is superficially sterile. (4) The path of a suture may be sterilized by passing the needle, which carries the thread, through a flame immediately before the stitch is taken. A fine needle should be used, and introduced rapidly; a coarse needle, slowly introduced, produces injury to the tissues. A fresh needle and suture for each stitch are essential to the success of this method. (5) Cultures from wet dressings show presence of bacteria which live only in moist surroundings; a dry dressing is to be preferred.

A Simple Fracture Support.—The difficulty with which pressure-sores are prevented in the ordinary Buck's extension apparatus for fractures of the lower extremities is overcome by the following simple device described by R. KLAPP (*Deut. Zeitsch. f. Chir.,* Sept., 1901) as follows: (1) Two uprights, one on either side of the bed placed opposite the knee; (2) a cross piece, firmly fastened to the top of these, bearing over the injured limb a pulley; (3) the leg is now surrounded by a long, loose canvas sling which reaches from the heel to the crotch; (4) through the loose portion of this is passed a pole long enough to project about four inches beyond either extremity of the canvas sling; (5) a strong rope is passed over one end of this pole, through the pulley, to the other where it is attached so that it lifts the limb from the bed; (6) the usual Buck's extension having been applied and the right adjustment of the above apparatus having been arrived at, the limb rests easy with the pressure upon it uniform from end to end and all possibility of bed-sore is avoided. In applying the Buck's extension he finds the following little plan very convenient for making the pull of the plaster even all over the leg: The side extensions of the plaster are slit into three pieces from their ends to a point opposite the sole of the foot; the middle of the three strips is gummed evenly upon the skin all the way up; the front strip is then carried over the shin and twice spirally around the leg, terminating just above the knee, and the back strip is similarly carried twice around the leg terminating as the other. Since the middle strips are first applied these spirals overlie them and hold them firmly in place and make an even pull on all the surface of the lower extremities themselves. All these features, he says, add greatly to the comfort of the patient.

Flagella Staining with Night Blue.—The methods commonly employed for flagella staining do not give altogether satisfactory results. This is principally due to the fact that in such two solutions are employed—a mordant and a stain. In case of failure to obtain the desired result it is thus difficult to locate the cause of error. LECTHWORTH SMITH (*Jour. Med. Research,* Nov., 1901) reports satisfactory results from the use of Newman's method. As this method has not come into general use and is not to be found in the usual text-books, a description of it is of interest. The cover-glass preparation is prepared in the usual way with the exception that no fixation by heat is necessary. The flagella stain is then filtered on and allowed to remain for five or ten minutes. This stain is prepared as follows: Tannic acid, 1 gm., and potassium alum, 1 gm., are dissolved in 40 c.c. of distilled water and placed in the incubator over night. To this is then added 5 gm. of night blue dissolved in 20 c.c. of 95 per cent. or absolute alcohol. The whole mixture is then filtered. The stain should always be freshly prepared. After staining the flagella the preparation is washed in water and the bodies of the organisms stained with aqueous gentian violet solution for two minutes. The preparation is then washed in water, dried with filter paper and mounted in balsam.

Uterine Cough.—Coughs of reflex origin are always difficult to treat and none more so than those which proceed from the uterus. L. ARCHAMBAULT (*Gaz. de Gynéc.,* Oct. 15, 1901) states that the following indications must be fulfilled: (1) To diminish the excitability of the reflex center in the bulb, chiefly with opium, morphine, bromides and other sedative drugs; (2) to quiet the point of departure of the reflex, *i.e.,* the uterus itself, which must be treated for any unnatural condition existing there, such as displacements, ulcers and the like; (3) to influence

the centrifugal paths, for example, by active counterirritation over the small of the back and sometimes by stimulation of the phrenic nerve; (4) to exercise an inhibitory influence on the cerebral nerve centers. This means that the physician should exercise suggestion with his patient and impose upon her the necessity of greater self-control. The special means of carrying out these various indications are sufficiently common in the knowledge of everybody to make mention unnecessary.

Nature of Fat in Chylous Urine.—The origin of the fat in chylous urine has been variously ascribed to the (1) degeneration of the epithelium of the urinary tract, (2) secretion of fat by renal epithelium, (3) direct passage of fat from blood to urine, and (4) direct passage of fat from chyle to urine. The results of experimental research have excluded the first three of the sources and at present it is believed that the fat in the urine is derived directly from the chyle. The nature of this fat is of interest from several standpoints and has recently been inquired into by A. E. AUSTIN (*Jour. Med. Research*, Nov., 1901). By a complicated method of analysis which involves repeated extraction with alcohol and ether, he shows that the fatty acids are present only in small traces and that the greater portion of the fatty constituents is made up of glycerides or neutral fats. This is to be expected in accordance with the accepted theory of the origin of the fat. Of the fatty acids the largest proportion is oleic acid, the remainder being made up of stearic and palmitic acid. The oleic acid thus found is peculiar in that it remains solid at 29° C., while normally it fluidifies at 14° C. Large amounts of cholesterin are also present.

Diagnosis of Glanders.—Strauss was the first to point out the fact that if virulent glanders bacilli are introduced into the peritoneal cavity of a male guinea-pig peculiar suppurative lesions of the scrotum generally result in a few days. This method of glanders diagnosis has been extensively utilized as a rule with favorable results. LANGDON FROTHINGHAM (*Jour. Med. Research.*, Nov., 1901) reports the examination of 312 horses and two men by this method. Of these 123 horses and both the men gave positive results. Of the 189 horses which gave negative results 35 were afterward killed as glandered. In conducting this test the material for inoculation is obtained from the mucous or cutaneous lesions by means of a sterile swab similar to that generally used in diphtheria work. The cotton is then removed and violently shaken in a small amount of distilled water which is then inoculated intraperitoneally into at least two guinea-pigs, due antiseptic precautions being employed. In considering the results obtained it should be remembered that when glanders lesions are healing the bacilli in them are probably less numerous and perhaps less virulent than in the early stages of the disease; furthermore that the guinea-pig is not highly susceptible to glanders. It is thus seen that while a positive result means everything, a negative result is of little value unless several trials have been made. At every trial three or four guinea-pigs should be used, each pig receiving an inoculation of one-half to one cubic centimeter of the suspension of the organisms.

Tubo-Ovarian Cysts.—Among the abnormalities to which the genital tract in woman may be subject is one which exists normally in some animals, *viz.*, the tube is directly continuous with the ovary. G. PREISER (*Arch. f Gyn.*, B. 64, H. 3) presents the following conclusions on this subject: (1) A congenital "ovarian tube" has not yet been definitely proven in man. (2) The majority of tubo-ovarian cysts have the following origin: A sactosalpinx and ovarian cyst adhere together and the separating membrane later undergoes an atrophy by pressure. In cases where this relation exists at the fimbriated extremity of the tube the deceptive condition arises of an artificial ovarian tube. (3) The origin of a tubo-ovarian cyst in the manner of a hematocele is conceivable, but the frequency of the condition on both sides and the absence of blood elements in the contents of the cysts make it unlikely. (4) The presence of genuine tubo-ovarian cysts in the cavities of which fimbriæ either float free or are grown to the walls is explained probably by the theory that after the original growth of tube to ovary an exudate about them takes place. This exudate encloses them and finally becomes the outer wall of the cysts making the tube in part its contents.

Carcinoma, Pregnancy and the Climacteric.—The influence which pregnancy and the climacteric have upon the permanent results of radical operations for cancer of the uterus has lately been studied by K. HENSE (*Zeitschr. f. Geburtsh. u. Gynäk.* B. 46, H. 1). His conclusions are, briefly, (1) that the climacteric in itself has the greatest influence in determining a better prognosis for carcinoma of the uterus, especially that of the body; (2) that radical operations for carcinoma during actual pregnancy, at the time of childbirth and during the puerperium give, in point of fact, the worst prognosis of all; whereas those performed after the menstrual flow has stopped give the best prognosis.

Tuberculous Seminal Vesiculitis.—The invasion of the genital tract in the male by the bacilli of tuberculosis is now a diagnosis frequently made. In treating this condition surgically H. YOUNG (*Ann. of Surg.*, Nov., 1901) elects the suprapubic route. He makes an incision in the middle line from the symphysis to the navel. Just above the navel, it is joined by a transverse incision through the linea semilunaris, both are deepened until the peritoneum is reached, without opening the peritoneal cavity, the bladder is freed all around of its serous coat until at the base the disease is reached. The bladder is then opened, catheters are passed into each ureter so that they shall not be damaged

during the rest of the operation. After this has been done, the prostate gland and the seminal vesicles with the vasa deferentia are removed. The recovery from this operation is usually good and the transverse incision through the recti muscles seems to do but little damage.

Rachicocainisation.—The French surgeons are still much interested in the use of cocaine within the spinal canal as a means of anesthesia for operations below the diaphragm. KALLIONZIS (*Rev. de Chir.*, October, 1901), after reviewing the records of this method in literature, points out that surgeons are to-day in much the same position regarding it as they were when chloroform was first introduced. Since, however, the methods of giving chloroform have so much improved, it is to be expected that many of the objections against the use of cocaine in this manner will shortly be surmounted. He alludes to the methods suggested about a year ago by Tuffier in Paris. Under this method with a small dose complete anesthesia is obtained, with very few or no bad after-effects.

Parallel and Simultaneous Auscultation.—The difficulties of making comparison between the conditions of the lungs on each side with the ordinary stethoscope have been surmounted by BOURGET (*La Sem. Méd.*, November 6, 1901) by the following method: An ordinary stethoscope bell with a long shank is fixed to a piece of rubber tubing. At the other end of this tubing is a self-retaining ear-piece. Such is the single instrument. There must be two, one for each ear. The examiner now stands before the patient, places the ear-pieces in his ears and, with a bell in each hand, starts at the upper part of the chest and works downward on each side in orderly fashion, placing the two bells at the same points on each side. The author claims that this device is accurate, labor-saving and time-saving.

Gall-Bladder Wounds.—The familiar difficulty with which wounds of the gall-bladder sometimes heal, inspired Enderlen and Justi (*Deut. Zeitsch. f. Chir.*, Oct., 1901) to undertake experiments on dogs directed toward filling defects in the gall-bladder by means of omentum. Their results are interesting and as follows: (1) Wounds of the gall-bladder heal with complete restoration of the mucous membrane. (2) Copious suppuration and hindered outflow of necrotic masses check the healing. (3) The new epithelium shows at first low forms which change on developing into the high cylindrical epithelium. (4) The regeneration of the muscular coat is somewhat incomplete. (5) A tendency of the epithelium to grow along the holes made by silk threads is present in only a few cases. (6) The transplanted omentum is absolutely adapted to replace defects in the gall-bladder. (7) In the omentum there is first a development of the connective tissue followed by much shrinking. (8) On the transplanted omentum there is well spread out a covering of epithelium beneath which the new mucous membrane soon appears. (9) The original defect gradually grows smaller on account of the shrinking in the omentum and the contraction of the muscular coat. Practical obstacles against the transplanting of the omentum rarely occur. (10) In the dog the gall-bladder may be opened and spread out upon the liver. Soon, however, with the aid of the liver-substance a cavity is formed which tends to carry out the functions of the gall-bladder.

Ozena.—The present status of the pathology and therapeutics of this disease is summarized by E. BARTH (*Fortschritte d. Med.*, Nov. 22, 1901). The true etiology is still undecided for it remains a matter of dispute whether the condition is merely a symptom or an idiopathic disease *per se*. Syphilis, purulent inflammation of the nose or its accessory sinuses, neuropathic degenerations, atrophic processes in the mucosa, specific bacteria or other parasites, rudiamentary development of the turbinates, have all been suggested as causative factors. In the latter case an abnormal widening of the nasal canal is produced, followed by certain changes in the lining mucosa, so that the secretions probably become largely deprived of their bactericidal functions. The trophic nerve disturbance is undoubtedly a leading factor. As far as therapeutic measures are concerned nothing has been found as yet to give permanent relief. Curettage of the nasal mucosa or removal of the already atrophied turbinate is not to be recommended, for these procedures undoubtedly aggravate the trouble. The foul odor and the crusts can be quite largely obviated by irrigations and tamponade. The least dangerous method of irrigation is by the pharyngeal route, using weak solutions of salt, sodium bicarbonate or potassium permanganate. The tamponate is best made with tightly-fitting plugs of non-absorbent cotton, without medication, applied to each nostril alternately and left in place for twenty-four hours. It is very important to continue the treatment daily and without intermission. A new drug from which good results have been reported, on rather incomplete trials, is a sodium sulphate salt of phenol.

Xanthoma of Eyelids.—These yellowish patches on the eyelids resembling chamois leather are slightly elevated, soft, without heat or redness, are not hereditary and most frequently develop after puberty. F. J. LEVISEUR (*Med. Rec.*, Dec. 7, 1900), says that the region of the left upper eyelid is most frequently affected and the growth very seldom becomes malignant. It has been proven not to be a neoplasm, but the product of degeneration of embryonically misplaced muscle fibers. Internal medication is useless in treatment, but excision is recommended by most authors. The cautery and caustics cause too wide destruction of tissues. Electrolysis attacks the degenerated tissues only, its action being local and under control, and the pain which is occasioned is very slight. The positive pole is held in the hand of the patient, the negative pole being connected with a needle which is inserted hori-

zontally into the xanthoma. The hydrates of calcium potassium and ammonium which are found on the negative pole also serve to destroy the tissues. Healing occurs rapidly.

Hemorrhagic Diathesis in Nose and Throat Work.—The difficuly in controlling hemorrhage from the nose and throat is easily recognized and hence it is always important to avoid operations, if possible, upon patients who are prone to bleed easily. E. H. GRIFFIN (*Med. Rec.*, Dec. 7, 1901), shows what a tendency there is among patients to deny a bleeder's history when an operation is desired by them, and yet, if severe hemorrhage occurs, one may frequently obtain subsequently a good hemophilic history. He reports two cases in which every means were used to control hemorrhages induced by operations upon the turbinated bones and tonsils, which might have been avoided if the true history had been given. Plugging is usually necessary in severe cases, but it is better to employ anterior plugs only if possible. He strongly recommends morphine to control the patient and quiet the excited efforts which interfere with clotting.

THERAPEUTIC HINTS.

Erysipelas.—When the fever is alarmingly high it must be reduced by cold sponging, cold baths, ice-cap, guaiacol applied externally, etc. For pain, sleeplessness and active delirium hyoscin hydrobromide, gram 0.0006 (gr. $^1/_{100}$), is indicated, or sodium bromide, gram 0.3 (gr. v), every two hours, or gram 1.3-2.0 (gr. xx-xxx) at night, or morphine, gram 0.008 (gr. $^1/_8$) and chloral, gram 0.65 (gr. x), every half hour for three doses, or atropine and morphine, or potassium bromide and tincture of cannabis, gram 0.65 (ℳx). Iron and quinine and alcohol and strychnine should be given with a free hand. The air can be excluded from the part, an important procedure, by carbolized vaseline. As the streptococcus is found in the more superficial channels of the corium, scarification with the application of mercuric chloride solution, 1:4000, is a rational antiseptic treatment.—J. M. ANDERS in "Practice of Medicine."

Influenza.—An efficient diaphoretic, given early, may abort the attack; otherwise calomel should be given for a day in small doses. The neuralgia and myalgia may be relieved by quinine, Dover's powder and ergot. When the temperature is above 102° F. (38.8° C.) order cool sponge baths every two or three hours, or give quinine and salol or phenacetin. Sleeplessness may demand trional, chloralamid, opium, etc. The coryza is relieved by inunctions of animal fats over the forehead and nose, or by steam inhalations. The laryngobronchial irritation may be controlled by

℞ Codeinæ sulph..... 0.25 (gr. iv)
Ammon. chloridi..... 20.0 (℥v)
Syr. pruni virg..... 60.0 (℥ij)
Spt. junip. comp. ad...120.0 (℥iv)

M. Sig: One teaspoonful every two or three hours.

Oil of eucalyptus, gram 0.2-0.35 (ℳiii-v), in capsules every four hours, is useful when the bronchial secretion is very free. Chest pains may be relieved by turpentine stupes and sinapisms. In the severe forms, stimulation must be carried on with heroic doses, strychnine and the aromatic spirit of ammonia being the most generally useful. Convalescence demands rigid supervision, the greatest injury resulting from going out too early. Gentian, iron and quinine form a good tonic till health is restored.—J. M. ANDERS in "Practice of Medicine."

Carbolic Acid for Tetanus.—The cure of tetanus in a man who presented himself with a filthy dressing over a chronic ulcer on each leg is reported by DAVID SMART (*Liverpool Medico-Chirur. Jour.*, Sept., 1901). Ten c.c. (℥iiss) of tetanus antitoxin were injected, and repeated in twenty-one hours without effect, and the author thinks the dose may have been too small. Then 1.3 c.c. (twenty minims) of 1 to 50 carbolic acid were given hypodermically every three hours. Twenty-eight injections in all were administered, and after the first day steady improvement took place and continued till the patient was cured. The hypodermic solutions produced neither local irritation nor carboluria, although at the same time the ulcers were being dressed with 1 to 40 carbolic. Chloral and bromide were given throughout the disease, but the author thinks that these were of only secondary importance.

Uremic Convulsions.—In a case of acute nephritis, T. R. GLYNN (*Liverpool Medico-Chirur. Jour.*, Sept., 1901) administered purgatives and diaphoretics, including the hypodermic injection of pilocarpine and the restriction of food to diluted milk, yet in four days uremic symptoms developed, with repeated fits, coma, stertor, cyanosis and contracted pupils. Two pints of blood were then drawn, and a pint of saline solution injected into the connective tissue in the axilla, and shortly after half a pint was injected into the rectum. The convulsions ceased, consciousness returned, the nephritic symptoms ceased, and for the following ten days he passed 2,100 c.c. (70 oz.) of urine a day, whereas before the saline treatment 600 c.c. (20 oz.) had been the maximum.

Haab's Magnet in Eye-Work.—The old Snell magnet is too weak to be of much use, writes RICHARD WILLIAMS (*Liverpool Medico-Chirur. Jour.*, Sept., 1901), but by its great strength, Haab's magnet may be a source of danger. He reports two cases of the extraction of pieces of steel from the inner chamber of the eye by this magnet, the power of the magnet being so great that it caused bulging of the tissues when they were too dense to be perforated by the piece of steel. In one case the foreign body was drawn right through the iris, with considerable bleeding into the anterior chamber, and, on account of bulging of the cornea, there was dangerous lateral collapse of the globe.

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SATURDAY, DECEMBER 14, 1901.

NEW YORK'S HEALTH COMMISSIONER.

AT a dinner given by the alumni of Columbia University to Mayor-elect Seth Low, at Sherry's last Tuesday night, Mr. Low spoke of the duty he owed as a son of Columbia to the City of New York. We all know how nobly, honorably and well he will discharge that duty.

The choice of the Commissioner of the Department of Health is no easy matter. We feel that he should be a physician. There are other students of hygienic science than medical men, but the work of a health commissioner is wider than that of a mere hygienist or sanitary engineer. Only the worker among the sick of a large population has a realizing sense of the problems involved in the combat with disease, both physical and social.

A bacteriologist, a chemist, a pathologist, a sanitary engineer, no matter how eminent he may be in one line of research, is fitted only in most exceptional instances to cope with the complex conditions present in the City of New York.

From the other point of view it will be a difficult task to find a physician who is at the same time a doctor, a hygienist, a sanitary engineer and an executive officer of high ability. Indeed, the combination is a rare one. We feel assured that our Mayor-elect will find such a man.

FRESH AIR IN RESPIRATORY AFFECTIONS.

ONE of the most striking utterances at the semi-annual meeting of the New York State Medical Society was that of Dr. Hunter of Toronto, who declared that if he were to be taken down with pneumonia in New York City he would prefer a cot under the trees in one of the parks than a bed in the best private room in any of New York's magnificent hospitals. He was not slurring the hospitals, but expressing forcibly the conviction brought home to him by his favorable experience with the treatment of patients suffering from pulmonary affections in tents on the grounds of the Western Hospital of Toronto. Dr. J. C. Wilson of Philadelphia confirmed this opinion by stating that to his own knowledge the mortality from pneumonia in lumber camps, where it is not an unusual disease because of the exposure incident to the life, was much less than under the apparently more favorable conditions of city life.

These expressions of opinion represent by no means new discoveries, but they recall old truths that are constantly lost sight of or at least partially neglected in medical practice.

There is still extant among physicians, as well as their patients, an unreasonable dread of cold and of the dangers of damp air. Draughts are thought to be particularly dangerous for patients with febrile temperature. Recent clinical experiences serve to show that while the body temperature is higher than normal there is nothing that gives greater comfort to the patient than cold fresh air. The superstitious prejudice that fifty years ago kept cold drinks of all kinds from fever patients and hugged the delusion that it was doing most good when making the patient most uncomfortable has left behind it the almost as unreasonable medical fetish that cold air will surely do harm.

In the sanatoriums where in recent years tuberculosis has been treated with so much success, the value of fresh air is appreciated at its true worth. Patients who go to sanatoriums in the Engadine, in the Tyrol, and even here in the Adirondacks, are taught to fear nothing less than fresh air, no matter how cold it may be. It is not an unusual thing to have returned patients cured of their serious pulmonary tuberculous condition report that their windows were open

on the coldest nights, so that water kept in the room was frozen in the morning, while at times the patient awoke to find that an inch or more of snow had silently drifted over the bed-clothing. Colds in the healthy and exacerbations of the catarrhal conditions in the phthisical are not due to low temperature. Nansen spent a winter in the frozen North without suffering from a cold and had to take to his bed with a grippy cough before he had been a week in the temperate zone. The development of acute symptoms in the consumptive is much more likely to be due to overexertion than to exposure to cold.

While ordinary cold air is very much dreaded, night air comes in for particular condemnation. It is not easy to understand how night air obtained its bad reputation. In tropical countries, or rather in malarial regions and the countries in which medical traditions developed were practically all malarial, night air was set down as especially dangerous because it was noted that exposure at and after nightfall was liable to be followed by an attack of the disease. Malaria, as its etymology shows, was thought to be due to unwholesome air, hence the rise of the prejudice against night air. We know now that malaria is due to the mosquito, which does not bite during the day and whose favorite marauding time is just after nightfall. The prejudice against night air and the mythical dangers associated with it will not die easy however.

As a matter of fact, night air is a little purer than the air of the daytime. There is less disturbance of dust particles, because of the absence of commercial activity, and there is consequently less irritating material in the air and fewer bacteria-carrying particles of many kinds. The lowering of the temperature during the night brings the humidity to the saturation point with consequent deposition of moisture from the air and also of undesirable floating germ material. It is time, then, to do away with all the unfounded ideas as to the possible harmfulness of air under any circumstances, night or day. Patients are sometimes kept in rooms in which healthy individuals would become ill if confined continuously for any length of time. Physical conditions that would do harm to the well can scarcely be hoped to benefit those who are seriously ill.

For children and for patients suffering from respiratory disturbance or from lack of cardiac compensation that interferes with the processes of internal respiration, an abundance of fresh air is the primary indication, the most important adjuvant for the restoration of health. Unfortunately, it is prone to be in just these patients that the prejudice against fresh air exerts its harmfulness. In the case of delicate patients the temperature may have to be maintained, but this should never be an excuse for insufficient ventilation. Patients will have many less complaints to make and their general comfort will be greatly enhanced by a never failing supply of fresh air, not loaded with antiseptics, but with the vital properties that sunshine imparts to it.

ANTIVIVISECTIONISTS AS ANTIVACCINATIONISTS.

THE antivivisection agitations are rapidly confirming the diagnosis which even the unpsychiatrical public long since made of their mental status, for those who live in Boston are now putting all their energy and probably most of their funds in a crusade against vaccination. At any time this is bad enough, but at present when smallpox is more prevalent than it has been for many years, and not a few cases every week in Boston, it is particularly unpleasant. At present no statute covers offenses of this nature in Massachusetts and the only ones who will suffer for the agitation are the few misguided ones who will needlessly take smallpox thereby, together with their families and fellow-citizens. The unfortunate ignorant will perhaps occasionally fall unwilling victims to this one of the worst of modern mental "squints." This influence would not be felt did not they fill their circulars with misstatements well capable of deceiving any not aware of the irresponsible source of the whole disgraceful agitation.

But it is not the most ill of winds after all, although the good it blows lies in a somewhat different direction. It may none the less compensate the public sooner or later for this immediate unmistakable injury. This will probably serve as the death-knell of their antivivisection annoyance in Massachusetts, if not in a much larger sphere. That this is so was recently suggested by an editorial in a prominent Boston paper, saying "The antivivisectionists' league has put an end to what little influence it may ever have possessed previously by this vicious attack upon vaccination." To the informed, the antivivisection hearings at the State House the last two springs have been weeks of more or less intolerant sympathy with delusion, but to the pub-

lic at large (so far as they ever heard of it) they have been agitations with more influence (however slight) than interest, appealing sometimes to the hyperesthetic emotions of women (and occasionally of a man) who quite refused to lend attentive intellect to the discussions. But most of these people must believe in vaccination. At any rate the common diagnosis of the agitators' case certainly is confirmed.

ECHOES AND NEWS.

NEW YORK.

Cornell Medical College Entering Class.—In this, the first entering class of Cornell Medical College for the full four-year course, 181 students have registered.

Albany Hospital Enriched.—Under a decision of the Appellate Division the Albany Hospital will receive $50,000 by the will of Ellen M. Campbell, sister of the late Allan Campbell, formerly Comptroller of New York City. The cause making the bequest to the hospital for the maintenance of a separate ward for cripples was opposed by the Home for Aged Men, which carried an appeal to the Appellate Division from the decree of the Surrogate. The Home for Aged Men is given $5,000 under the will. There are bequests to other benevolent societies. The original will provided for the erection of a monument to Sir Walter Scott in Albany, but by codicil this was revoked.

Smallpox Cases Unreported.—The Health Department officials in Brooklyn yesterday began an investigation to fix the responsibility for the Department's being kept in ignorance of the existence of several cases of smallpox in an apartment house at 1,634 Eighth Avenue. It is alleged that two physicians, who attended the patients, failed to report the cases to the Department. The existence of smallpox in the house became known to the department on Friday, when one patient, who lived in the building, died of the disease. Dr. John E. Walsh, diagnostician of the department, visited the house and was surprised to find that four children were also ill with smallpox. All of the children were removed to North Brother Island.

German Hospital Annex Dedicated.—August Zinsser, Chairman of the Building Committee of the German Hospital and Dispensary, yesterday formally turned over to Carl Schurz, representing the Trustees, the new annex, which has been in course of construction for more than a year past, and which is now ready to receive patients. The new building, which is a five-story brick structure, is 45 feet wide fronting on Lexington Avenue, and 80 feet fronting on Seventy-seventh Street. It was designed principally to accommodate private patients, but there is room in it also to relieve the free wards of about sixty persons, so that the capacity of the hospital has been increased to the number of about 125. The addition is fireproof and cost $180,000.

New York University and Bellevue Medical College.—The report of the Medical Faculty shows that over twenty-five hundred examinations of material were made in the past year in the clinical laboratory of pathology, seven hundred of which were for the Bellevue Hospital, and the remainder for the classes in the university dispensary. The dispensary received fifty thousand visits from patients, an average of one hundred and seventy daily. Twelve researches were published from the physiological laboratory, and an equal number from those of pathology, chemistry, and bacteriology. Eighty per cent. of last year's class have received hospital appointments. The dispensary has received a gift of $2,000 for the purchase of material. The Scientific School catalogue shows an increase of 65 students in the school and 46 in the freshman class. In the entrance examination of the school, Roman or Greek history may be substituted for United States history, and in algebra quadratics will be required. There are three additions to the list of instructors and several new courses. The Medical School catalogue shows 147 students, a gain of 14, and a gain of 12 in the entering class. There are five changes in the list of instructors.

Scarlet Fever in Brooklyn Hospital.—The Brooklyn Health authorities and the Coroner's Office of that borough are about to investigate the case of a boy who had been treated at the Long Island College Hospital for a fractured skull and was removed after being there for two weeks to the Kingston Avenue Hospital, suffering from scarlet fever. He died at the latter institution on Friday night. This is the second case of scarlet fever taken from the same institution that has resulted fatally within a month, and it is declared that in each instance the patient was infected at the Long Island College Hospital. Dr. Robert E. Shaw, Superintendent of the Long Island College Hospital, said last night that it was impossible to prevent contagion in hospitals where visitors are permitted to come into close contact with the patients. He declared that in each case, immediately after discovering the presence of the disease, every precaution had been taken to prevent a spread of it.

Appointment of Dr. Pritchard.—At the November meeting of the Trustees of the S. R. Smith Infirmary, Staten Island, Dr. Wm. Broaddus Pritchard was appointed consulting neurologist to the institution.

Adjutant-General of the National Guard.—The appointment of Dr. Nelson H. Henry as Adjutant-General of the National Guard of this State has the approval of its leading officers. Although at first sight the selection of a surgeon for this high office would seem an anomaly, it is in accordance with the new spirit in Federal military circles, which makes for the interchangeability of line and staff duties. There can be no doubt that Dr. Henry has the ability and experience necessary for the proper conduct of

his office, and it is understood that he was unwilling to take the position until he had made sure that his selection would be acceptable to those on whose shoulder rests the responsibility for the welfare of the Guard. Dr. Henry has had more than fourteen years' service in the National Guard, besides having held a commission in the United States Volunteers. He has also served three terms in the State Legislature, where his record was of the best. Altogether, the appointment is one which is as full of promise for the National Guard as it is creditable to Governor Odell.

PHILADELPHIA.

University of Pennsylvania Accessions.—The Wistar Institute of the university is now in possession of a "Bone Library," which is said to be the only one of its kind in existence. The bones which make up this peculiar library include the skeletons of almost every animal known to science. Dr. Jayne, who is at the head of the Wistar Institute, has adopted an entirely new method of classifying and arranging these bones. Instead of mounting the complete skeleton, as is commonly done, the skeleton is disarticulated, and the bones are catalogued and placed in separate trays, following the order of cataloguing the books in the University Library. By this means it is made possible to study every bone in its proper class. The collection is so complete that the evolution of any particular animal can be studied through many generations. In the same way it is possible to trace out the relationship to some allied animal.

Tetanus in Camden.—The ninth death from tetanus in Camden occurred December 7th.

Salary for School Medical Inspectors Urged.—The Committee on Hygiene of the Board of Education will urge Councils to make an appropriation for a paid medical service. This action is necessary because of the inability to secure a full corps of volunteer inspectors, a number of schools now being without inspection which is especially needed at the present time.

Free Vaccination at Home to Check Smallpox.—The Department of Public Safety has organized a corps of forty physicians to make a tour of the city and offer free vaccination to the inhabitants of every house. Circulars setting forth the benefit and necessity of vaccination have been printed and placed in every house by policemen. The physicians are making a systematic canvass of the city under the supervision of one of the assistant medical inspectors of the Bureau of Health. They receive twenty cents from the city for each person vaccinated. While vaccination is offered free of charge, it is not made compulsory, one of the officials saying, "We do not consider that the present status of the disease in this city comes under the head of an epidemic and do not recognize it as such. Should the time come when we must regard it as an epidemic, then we will make vaccination compulsory, being so empowered by act of Assembly." All schoolhouses are being disinfected with formaldehyde gas on Friday and Saturday of each week. Statistics for the week ending December 7th show a decrease of 41 cases and 6 deaths from the previous week. The majority of the hospitals in this city are excluding visitors from the wards in order to guard against the introduction of smallpox. The citizens of the Twenty-eighth Ward still insist that the presence of the Municipal Hospital is the cause of smallpox in that section and clamor for its removal.

Hospital for Contagious Diseases at Atlantic City.—It is understood that the authorities at Atlantic City are contemplating the erection of a commodious hospital for contagious diseases. A tract of ground covering 26 acres is under consideration as the site of the building.

The Effects of Cerebral Compression on Intracranial Blood-Pressure.—This was the subject of the Mütter Lecture of the College of Physicians for the year 1901, which was delivered in the hall of the College Tuesday evening, December 3d, by Dr. Harvey Cushing of Baltimore. The lecture detailed the result of experimental and clinical observations regarding the effects of compression, with especial reference to the question of capillary stasis or capillary anemia as the result. Two groups of causal factors were considered, local compression caused by a tumor, abscess, foreign body, etc., and general compression, as in the increase of fluids in the brain. To observe the effects of compression a glass window was inserted in the skull of the animal employed a point over the longitudinal sinus being selected.

Local Compression.—This was produced by means of mercury in a cannula and bag. When a slight dislocation of the brain mass was produced the color differences were not marked. Later venous stasis appeared and, finally, capillary pressure lessened, the capillaries near the compressing body and then those more distant lost their color, and anemia of the hemisphere with venous stasis ensued. There are but few symptoms of cerebral compression when the circulation of the hemispheres is compromised by local pressure if the medulla is working properly. A foreign body from one-eighth to one-sixth the size of the brain can for that reason be harbored without giving rise to pressure symptoms. Upon the locality of the foreign body depend the symptoms produced.

General Compression.—This was secured by the injection of salt solution into the cerebrospinal canal. The resulting venous stasis first showed itself about the optic nerve and was thus detected by examination of the eye grounds. By means of other instruments the blood-pressure of the animal was then determined and a series of comparisons between this and the compressing force made. It has been stated that when general compression of the brain, affecting hemispheres and medulla, is raised to the point where the tension equals blood-pressure, the patient must die. This statement was proven to be er-

roneous by the fact that when this condition was reached the blood-pressure was by some means elevated sufficiently to still supply the brain. This elevation occurred repeatedly to counteract increasing tension until in some instances it was two or three times the height of normal blood-pressure.

The Cause of Blood-Pressure Rise Under Increased Intracranial Tension.—Experiments were then conducted to determine the cause of the increase of blood-pressure. It was found that when the pneumogastric nerves were divided tension and blood-pressure followed each other more easily. If the cord was divided, thus cutting off vasomotor control, there was no blood-pressure rise under the stimulus of increased tension. If both the cord and the pneumogastrics were divided no alteration in the pulse was caused by increased tension. The changes in blood-pressure were thus determined to be due to vasomotor control of the splanchnic center. When the medulla was cocainized no effect on blood-pressure was produced by variation in the tension. If intracranial tension was *suddenly* raised to the level of blood-pressure the vagus was stimulated and the heart completely checked. If tension was increased slowly there was no period of entire inhibition. The rhythmic changes in blood-pressure which sometimes occur are by the above facts easily explained. Under increased tension anemia ensues and then blood-pressure rises, going to a height more than necessary to counteract the tension. It then falls because of the tension and again rises. This produces waves in the blood-pressure, good circulation and anemia alternately.

Conclusions Reached by the Experiments Detailed.—In cases of death from cerebral compression respiratory failure precedes heart failure, instances being cited where the heart beat for hours after respiration ceased. But before this respiratory failure takes place there is a collapse of the vasomotor mechanism. Sudden removal of intracranial tension is dangerous in some cases. Multiple ruptures of vessels may take place and cause immediate death. Venous stasis following modification of the tension is early evidenced in the eye grounds. Local pathological processes may cause the cessation of circulation in a large part of the forebrain without causing untoward results if the medulla is not involved. Persistent rise of blood-pressure is a late and dangerous symptom in cases of compression, as it is due to approaching anemia of the medulla.

Albuminoid Expectoration.—At the December meeting of the College of Physicians Dr. David Riesman discussed this subject and reported a case. The patient was a woman, forty-eight years of age, who had a chronic pleurisy of one year's duration. After tapping the chest, with removal of three pints of fluid, the woman expectorated during six hours about one gill of a frothy, yellowish, slightly blood-tinged fluid. A second tapping was done some time later, but there was no true albuminoid expectoration. The fluid expectorated in these cases tallies closely with the fluid drawn from the chest. In these cases the expectoration begins from a few minutes to half an hour, or rarely two hours, after the tapping. In some instances a pint or a quart is expectorated. Acute cases are most liable to this complication. The following four explanations of its occurrence which have been advanced were analyzed: (1) Perforation of the pleura by the tapping instrument; (2) spontaneous perforation; (3) absorption of fluid by the lungs; (4) pulmonary edema. The latter is believed to be the true explanation and the following conclusions were drawn: (*a*) Albuminoid expectoration is rare; it is a serious and sometimes fatal accident; (*b*) it is due to the too rapid withdrawal of fluid or the removal of too large amount; (*c*) it is caused by an intense congestion of the lungs.

Successful Serum Treatment for Tetanus Reported.—Newspaper reports from Pittsburg claim for a worker in the Pathological Department of Mercy Hospital the discovery of a successful serum treatment for tetanus. Animals have been experimented upon for a year or more and recently three persons were treated with the serum, recovery following in each case. No details of the method are given.

CHICAGO.

Changes Contemplated in Medical Staff at Dunning.—Members of the County Civil Service Commission are preparing to meet probable changes to be made in the resident medical staff of the Dunning institutions as a result of the deliberations of the Advisory Commission appointed by President Hanberg of the County Board, with a view to improving conditions there. While no definite action has been taken, the staff may be increased and an effort will be made to raise the salaries of those physicians who are required to give their entire time to the County. In view of these facts the Civil Service Commission has adjourned the physicians' examination until December 16th, in order that the test may be given greater publicity and that in the light of a possible reorganization of the staff a greater number of applicants may be able to take the examination. Members of the Commission are particularly anxious to secure a good eligible list by the first of the year, when a number of important appointments will have to be made. At the time President Hanberg appointed the Advisory Commission to look into the conditions at Dunning he particularly directed its attention to the need of an improvement in the organization and efficiency of the medical staff. Members of the County Board are in accord with his determination to improve this important service in the county institutions, and there is no doubt changes will be made immediately upon receiving the report of Dr. Frank Billings and his associates of the Advisory Commission.

Dr. Frances Dickinson Honored.—The students and faculty of the Harvey Medical College

have presented Dr. Dickinson with a life-size portrait of herself. She is the president of that College. Last year she was made president of the Illinois Educational League, which was incorporated to foster extension work done by the University of Illinois.

Typhoid Fever in West Pullman.—An investigation of a local outbreak of this disease in West Pullman showed that ten out of eighteen families affected had been receiving milk from one dealer. His place was visited and taken charge of by one of the milk inspectors pending radical improvement in the drainage and water supply of the premises.

Non-Liability of Charity Hospitals.—In a suit for $25,000 damages brought against the Presbyterian Hospital on account of injury alleged to have been the result of a mistake in medicine made by a nurse, Judge Chytraus instructed the jury to find for the defendant on the ground that a hospital chartered for the purpose of receiving and treating patients without charge is not liable for the carelessness or negligence of its servants, providing it has selected those servants with due care.

People's Hospital and Training School.—An institution bearing this name has been incorporated for the purpose of educating nurses. The incorporators are Drs. I. C. Gary, Gordon C. Burdick, George W. Webster.

Addition to Mercy Hospital.—This institution has purchased for $20,000 property on Prairie Avenue, and expects to extend the hospital to cover the 98 feet of frontage thus secured.

Chicago Surgical Society.—At a meeting, held December 2, 1901, Dr. Carl Beck detailed his experimental and clinical observations on surgery of the liver. Dr. Wm. M. Harsha reported a case of abscess of a sarcomatous kidney which simulated appendicitis. He likewise narrated an interesting case of tubal pregnancy of the fifth or sixth week, which was operated on, with recovery of the patient.

Filariasis.—Dr. Joseph L. Miller read a paper on this subject. He gave a detailed report on the urinary findings of two cases diagnosed as filariasis based on the presence of a nematode supposed to be embryo filariæ. Other decided evidence of filariasis was lacking. The worms were found only once in each of these cases, and on both occasions the patient brought the urine to the physician in a bottle. On account of the difference in size and structure, it was decided that the worms were not filariæ, but anguillula stercoralis, a parasite first reported associated with Cochin-China diarrhea. Failure to find previous reports of their presence in the urine and their detection in only one specimen of urine in each of these cases led to the suspicion that possibly they were not the anguillula stercoralis, but a very closely related non-parasitic form whose presence could be accounted for by the use of an unclean receptacle. The anguillula aceti, or vinegar eel, belongs to the same genus. Specimens were obtained and compared with the worms found in the urine and found to be identical in size and structure. Cultural experiments demonstrated that the vinegar eel could live and multiply in acid or alkaline urine. It was decided that the worms found in the urine of these two patients were the anguillula aceti or vinegar eel, their presence being accounted for by the use of a bottle that had previously contained vinegar.

Chicago Medical Society.—At a meeting, held December 4, 1901, Dr. Robert B. Preble detailed a case of aortic aneurism. The case was interesting because the man presented so many of the late manifestations of syphilis, and among them aortic insufficiency, aortic aneurism, and tabes. Dr. M. Friend showed and demonstrated a case of syphilis hereditaria tarda and exhibited numerous skiagraphs. Dr. Joseph B. De Lee read a paper on "Infant Incubation and Incubators." He presented a new incubator and described the system in use at the Chicago Lying-In Hospital. Dr. P. C. Clemensen read a paper on "Finsen's Phototherapy."

Public Health of Chicago.—The last report from the Department of Health says that, on the whole, Chicago has reason to be fairly well satisfied with its public health conditions during the month ending November 30, 1901. The average November mortalities of the previous ten years, 1891-1900, was at the annual rate of 14.16 per thousand of population. The 1,811 deaths from all causes recorded last month give an annual rate of 12.52, a decrease of 11½ per cent. The period of smallpox incubation has passed without any case having developed among Chicagoans from the four cases imported about a fortnight since from infected localities in Minnesota. Apprehension concerning the eighty "suspects" known to have reached the city soon after these four cases is also subsiding, since none of these has yet shown up with the disease. Conditions of the other contagious and infectious diseases were generally reassuring at the close of the week. Except an outbreak of a mild type of measles in Ravenswood and of a severe type of scarlet fever at Cheltenham there is no report of any unusual spread of this group of disease.

GENERAL.

Smalipox in New Jersey.—Twelve cases of smallpox and a fear that the disease will spread have caused consternation in the village of Sayreville. There was a great rush to be vaccinated last week, and the town Board of Health was forced to use the Town Hall to accommodate the people. Dr. J. H. Beekman, the Health Board physician, vaccinated 375 people up to noon to-day. There are two large factories in the neighboring village of South River. Many of the Sayreville people work there. Upon the recommendation of physicians, the management of the factories served notice upon the employees from Sayreville that they must not re-

turn to work until the epidemic is under complete control.

Dental Congress in Italy.—An Odontiatric Congress was recently held at Milan, when resolutions were passed asking for the establishment of chairs of odontiatry in all Italian universities having a faculty of medicine, and for the prohibition of dental practice except by holders of a diploma obtained after adequate course of education and examination.

Medico-Psychological Association of Great Britain and Ireland.—The stated autumn meeting of this Association was held November 21st. Sir Lauder Brunton delivered an address, in the course of which he said that hallucinations are perceptions having no objective cause; illusions are perceptions having an objective cause, but wrongly interpreted; visions he defined as hallucinations of the sense of sight; and apparitions as appearances or hallucinations affecting some one person or thing that the person seeing the vision has known.

Smallpox in London.—During the first three weeks of November there was a very marked increase of this disease both in the city and suburbs of London. Owing to the difficulty of making a positive diagnosis during the early stage of the disease—bacteriological examination being unavailing—special medical officers have been appointed to consider and pass upon all suspected cases.

Medicine in Madagascar.—A school of medicine for the training of native practitioners was established in Tananarive in 1897 and up to the present time has sent out fifteen graduates and now has 104 students. The curriculum is of five years duration and resembles that of the schools connected with the Faculties in France. Clinical instruction is given in a native hospital of 125 beds. These native-born practitioners will on graduation have the opportunity of competing for appointments in the Colonial Medical Service, in which the salaries run from $300 to $900 a year.

Chinese Doctors.—A leading Chinese newspaper has put forth a lament for the degeneracy of native physicians. Time was when the great men of China would take the prescription only of a man who represented the third generation, at least, of a family of physicians, and, hence, death rarely overtook the patient until old age had well paved the way. But how the present race of doctors have deterioriated! Many of them trade on the ignorance and superstition of their patients, forgetting that though they may deceive men they cannot hope to escape the eye of the gods. China has just awakened to the fact that in the enlightened West a man cannot practise the healing art until he has passed several stringent examinations and been declared so qualified by the Government. As in China all promotions, both in civil and official life, are made by examination, a petition has been presented to the Government to take the preparation for and practise of the art of medicine under its fostering care. The drugs and methods of European schools are looked upon with distrust and suspicion by the Chinese; but a few of the more intelligent and progressive among them are "getting into line," and a better and more rational state of affairs in the Chinese medical world is hoped for.

Nobel Prize.—It is announced that the Nobel prize for the encouragement of peace and arbitration, for 1901, amounting to 150,000 kroner (about $40,000), has been equally divided between Dr. Henri Dumant, the Swiss physician, who was recommended by the Swedish Rigsdag to the committee intrusted with bestowing the prize, and Frederick Passy, ex-member of the French Chamber of Deputies, member of the Academy of Moral Political Sciences and a leading apostle of peace, who received the next highest vote. The prize will be a special boon to Dr. Dumant, who is broken in health, in needy circumstances, and who is lying in a hospital in Switzerland. The Nobel medical, chemical, physical science, and literary prizes, amounting to 151,200 kroner each, and awarded, respectively, to Professor Behring, a German; Dr. Van t'Hoff, a Hollander; Professor Roentgen, and Armand Sully Prudhomme, a Frenchman of letters, were distributed December 10th by the Crown Prince in the Musical Academy at Stockholm.

Reappointment of Surgeon-General Van Reypen.—In order that Surgeon-General Van Reypen may retire as a rear-admiral of the upper numbers, the President will reappoint him Surgeon-General of the Navy when his term of office expires on December 18th. On that date he will lack about three months of the necessary forty years of creditable service allowing him to retire under the Personnel Act with advanced rank from that held at the time of such retirement. By virtue of his present assignment as Surgeon-General he holds rank as a rear-admiral of the lower numbers, but if he was not reappointed he would return to the grade of captain. It is more than tacitly understood that Admiral Van Reypen will apply for retirement as soon as he may under the provisions of the act referred to. Upon his retirement Medical Inspector Presley M. Rixey will be appointed Surgeon-General of the Navy.

McGill University.—The Phi Beta Pi Medical Fraternity of McGill held an installation this week, followed by a dinner provided by the medical students, at which addresses were delivered by Dr. Pray of Ann Arbor, Mich.; Dr. Mayer of the University of Western Pennsylvania, Pittsburgh, Pa.; Dr. Tidd of the Rush Medical College, Chicago; and Dr. Thomas of the Starling Medical College, Columbus, O.

Woman in Medicine.—The woman doctor in England has all her struggles before her. Recently the governors of the Macclesfield Infirmary appointed a Miss Murdoch Clark as junior house surgeon. Six honorary surgeons thereupon resigned. Recently the governors decided to ask her to resign, giving her a year's salary.

She replied that she was fighting the battle of medical women and declined to resign. The governors adjourned.

North Texas Medical Association.—This association met at Greenville, Tex., on December 10th, 11th and 12th. The Sections on Obstetrics and Gynecology, Surgery, and Practice were well represented and a number of interesting cases and papers presented. On the last evening of the session the physicians of Hunt County gave a reception to the visitors and their families.

Tuberculosis in Connecticut.—An organized movement is on foot to induce the cities of the State of Connecticut to enact local legislation to stamp out pulmonary tuberculosis. The ordinance which is being recommended to the municipalities set forth that tuberculosis is an infectious and communicable disease; directs each physician to report in writing to the local health authorities all cases of the disease which he is called to attend; makes it a misdemeanor to permit a room which has been occupied by a consumptive to be again occupied until it has been disinfected under official supervision; and provides that when a person dies from tuberculosis the City Health Officer shall be immediately notified by the undertaker in charge of the body. The Board of Health of Waterbury has already endorsed the proposed legislation and other cities have the measure under advisement. The State Board of Health has already established rules requiring cases of tuberculosis to be reported to the town health authorities, but the Board has no jurisdiction over cities which have Boards of Health. The State Tuberculosis Hospital, which is being built on Cedar Hill, in the suburbs of Hartford, and for which the recent General Assembly made an appropriation, is approaching completion.

The Western Surgical and Gynecological Association.—The eleventh annual meeting of the society will be held at the Great Northern Hotel, Chicago, on December 18th and 19th. A most interesting program has been prepared, which includes symposia on fibromyoma of the uterus and on prostatectomy. A. F. Jonas, M.D., of Omaha, Neb., is the president. A banquet will be given the visiting members by the Chicago members of the society on the evening of the 18th.

CORRESPONDENCE.

OUR LONDON LETTER.

(From our Special Correspondent.)

LONDON, November 30, 1901.

THE MEDICAL PARLIAMENT IN SESSION — THE CAUSATION OF CANCER: A NEW THEORY—THE IMPROVEMENT OF THE HUMAN RACE.

OUR Medical Parliament is now in session and as usual is giving a highly successful representation of a new version of "Much Ado about Nothing." For loquacity, waste of time, and legislative futility, our General Medical Council could hold the championship against any body appointed for the discharge of public duties in the world. There are no questions of any but local interest before it, and I will therefore not bore your readers with any account of the proceedings.

Last week I wrote about a case of cancer supposed to have been cured by an application of infusion of violet leaves. The case, as regards the sequence of facts, is a genuine one, but for the explanation of the facts we must wait for the *dénouement*. In the meantime an account of a new theory of cancer may be of interest. It was put forward at a meeting of the Leeds and West Riding Medico-Chirurgical Society two or three weeks ago by Dr. James Braithwaite, a gynecologist of some repute who may be known to many in connection with a "Retrospect of Medicine" which has appeared under his name for many years. He evidently believes that he has discovered the cause of cancer, and he is very much in earnest about the matter. The secret which so many men have shunned delights and lived laborious days to wrest from Nature may be told in one word, *salt*. In these days of fierce publicity, when every immature concept of the scientific mind is forthwith proclaimed to the world as an epoch-making discovery, the shifting currents of medical thought must cause hopeless perplexity in the mind (when he has any) of the "man in the street." Only a few months ago we were told on high scientific authority that salt was the elixir of life, and this announcement created such a demand for it that extra supplies had to be arranged for in clubs, hotels and restaurants. Fortunately Dr. Braithwaite's theory has not yet got into the newspapers, or there will be a terrible "slump" in the simple condiment which has scarcely yet lost the freshness of the blushing honors lately thrust upon it. Dr. Braithwait's theory is that excess of salt in the diet is one of four factors which originate cancer. It is the essential one, but inoperative without at least one and probably two of the others. The other factors are (1) an overnourished condition from more food, and especially more meat, than is needed by the organism; (2) an impure condition of body owing to non-use and non-oxidation of the food which has been taken; this condition is present in old age, in persons who lead indolent, easy and indoor lives, and locally in organs whose active functions have ceased; (3) a fourth factor is some local irritant or stimulant, such as friction from the stem of a pipe, or irritation from some micro-organism, of which no one is actually specific, or ovarian stimulation in the case of the breast. Of these the first must always be present and probably in some the fourth, and also either the second or the third, but not both of them. These factors being in existence the disease may be started in perhaps one epithelial cell, or in a mass of cells which grow individually larger, and change the nature of their protoplasm, for a cancer cell will not stain with Congo red whilst an epithelial cell

takes the stain deeply. The cell becomes a different being, with often more than one nucleus. Dr. Braithwaite says his theory was originated in his mind by the observation that cancer of the uterus was seldom or never met with amongst the numerous Jewesses attending the Gynecological Out-Patient Department of the Leeds Infirmary (only one case in ten years). The experience of the London Hospital where there is a special Hebrew Department is the same (only one case in five years, against 178 amongst Gentile women). The difference in diet between Jews and Gentiles is mainly the absence of bacon and ham in the diet of the Jews; and as the pig is the only domestic animal in which no case of cancer has ever been met with, he argues that it must be the salt and not the flesh which is to blame.

The distribution of cancer in England appears to Dr. Braithwaite to strengthen the case against salt, for wherever there is much cancer there is much meat-eating, and much meat means much salt. His teaching might be expressed in the formula "No salt, no cancer." "Cancer houses," as to which there has been a good deal of investigation during the last two or three years, are in Dr. Braithwaite's opinion merely houses where there is accommodation to keep a pig! Thus does a man, even one of knowledge and experience, who is thoroughly possessed by a theory, allow himself to be carried away by it into the depths of absurdity. It would be in vain to point out to such a one that cancer is common among the vegetarian millions of India; the reply would be that they take salt when they can get it. What are the unhappy people to do? Some years ago the doctrine was promulgated that the want of salt was the cause of the prevalence of leprosy in India. The rival theorists may be left to settle their "facts" as to the use of salt by the natives; but is a Government which professes to be a model of philanthropy—duly tempered by political economy—to endeavor to check the ravages of leprosy by sowing the seeds of cancer among the vast population under its rule? It is a matter of common medical experience that cancer spares Jews no more than it does Gentiles. If it be a fact—and this is, to say the least, very doubtful—that Jewesses are less liable than Gentile women to uterine cancer, this may perhaps be accounted for by the strictness with which even those of them who practise no other precept of their religion obey the ordinances as to "uncleanness." This is at least as plausible a theory as their abstinence from pork.

In the Huxley Memorial Lecture recently delivered before the Anthropological Institute, Mr. Francis Galton, who has done much careful work in regard to heredity and cognate subjects, outlined a plan for the improvement of the human race, or as he expressed it, the "possible improvement of the human breed under the existing conditions of law and sentiment." The essential point in his discourse was a demonstration of the advantages that would accrue to the State from the selection of men and women likely to produce a population of the highest class, and the presentation to them of bonuses and rewards of various kinds to induce them to intermarry. It is Walt Whitman's dream of a country peopled by "magnificent persons" in a more scientific form. Discussing the question how the proposed end was to be attained, Mr. Galton said that enthusiasm to improve the race might express itself by granting diplomas to a select class X of young men and women, by encouraging their intermarriages, and by promoting the early marriage of girls of that high class. The means that are available consist in dowries, where a moderate sum is important, help in emergencies, healthy homes, pressure of public opinion, honors, and the introduction of religious motives, which are very effective in causing Hindoo girls and most Jewesses to marry young. This enthusiasm to improve offspring might become in an ideal population itself a religion. He pointed out that every year in the British Islands £14,000,000 are contributed to charitable objects. A custom has existed in all ages of wealthy persons befriending poor but promising youths; this might be extended to young and promising couples. Again, it was usual among large landowners not to proceed on the back-rent principle, but to select the worthiest for tenants, and give them good cottages at low rents. The result was that the tenants and servants were of a finer stamp than men in similar positions elsewhere. It might easily become an avowed object of noble families to gather fine specimens of humanity round them, just as it was to produce fine breeds of cattle and so forth, which were costly in money but repaid in satisfaction.

The improvement of the "human breed" by State-regulated sexual selection is not a new thing. It has been tried, if I mistake not, more than once by sects of religious or other cranks in the United States, without any particular result. Of these experiments Mr. Galton seems to have made no mention. Nor did he say anything of the old King of Prussia, the father of Frederick the Great, whose ambition it was, in the words of Dr. Johnson, to "propagate procerity." To this end he bribed or kidnapped tall men from every country in Europe and thus formed a regiment of big grenadiers. These giants he mated with the tallest women he could find. The result of the experiment was on the whole a failure. The time may come when men and women may be "bred" like cattle; but that time is not yet—at least in our "Sleepy Hollow" of a country.

SOME REFLECTIONS ON OSTEOPATHY.

To the Editor of the MEDICAL NEWS:

DEAR SIR:—A man who represented himself to be from some Press Association called on me a few days ago, claiming to have some information concerning the practice of "Osteopathy" which he said would be of the greatest

value to the medical profession. He designated this practice as a gigantic fraud and an imposition, and a menace to the public health. In this I agreed with him. He offered to sell this evidence to me, and failing in this, wanted my moral support. I told him any effort to protect the community from the evils of this and kindred practices would have not only my moral support, but my active support as well at the proper time. I understand this person is visiting physicians, asking signatures to a petition of some kind, and soliciting subscriptions, using my name and showing a letter of introduction to me.

I know nothing of this person or of the association he represents, and, while I do not desire to cast any reflections on him or impugn his motives in any way, I want to say that he has no authority to use my name. I want to ask the members of the medical profession to be careful in signing any petition which may be presented, and in making subscriptions until they are certain the cause is a worthy one, and the person representing it is authorized by some organization or person other than himself to represent it.

New York, Dec. 3, 1901. FRANK VAN FLEET.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

RUPTURE OF THE SPLEEN—CHRONIC LEAD-POISONING—FUNNEL-SHAPED CHEST AND HEREDITARY SYPHILIS—TUBERCULOUS PSEUDORHEUMATISM—JACKSONIAN EPILEPSY — PROSTATECTOMY — ASTRAGALECTOMY—APHASIA.

BOINET, at the Academy of Medicine, October 29, 1901, gave the details of five cases of rupture of the spleen, occurring among malarious patients under various circumstances, namely, onset of intermittent fever, traumatism, etc. The cause of rupture, which may be termed spontaneous, which one observes during an attack of fever is necessarily difficult to fix. Sometimes this accident is favored by the softening with increase in size or the simple enormous distention of the organ. Sometimes it is due to a splitting of the envelope of the spleen, which is thin and hard. Adhesions, if numerous, on a malarious spleen between the diaphragm and the stomach equally tend to rupture of the organ, partly on account of the traction they exercise and partly by the fixation of the spleen, which does not escape in this manner the full result of any injury. In all of his five cases death followed a few days after the rupture.

VARIOT, at the Medical Society of the Hospitals, October 25, 1901, read notes of a case of chronic lead-poisoning due to a pewter drinking-cup which contained a large percentage of lead in its metal. The patient was a child who presented complete paralysis of the lower extremities and a muscular weakness of the upper extremities. The sphincters were unimpaired. On examination it was found that the gums showed a well-marked line blue characteristic of lead-poisoning. The diagnosis of lead paralysis was therefore easy and was explained by the fact that the child had used for a long time a cup made of pewter, which contained almost 75 per cent. of lead. It is exceedingly likely that a solution of a small quantity of this lead by the more or less acid fluid used in the goblet was the real cause of the poisoning. After removing the cause recovery occurred in a short time. The extensor muscles remained, however, rather weak for a longer time. The author arrives at the conclusion that, in all public institutions which still use pewter mugs, care should be taken to avoid such as contain a large amount of lead. It would be better still to cease their use entirely.

GAUCHER presented a young man who had several ulcerations on the legs and at the same time a deformity of the chest, familiarly called funnel-shaped chest. In addition he had abolition of the reflexes at the patella and a diminution of the reflex of the pupil to light. The cause of all the symptoms was really obscure. The individual did not present a single other evidence of nervous disease. He was, moreover, not actively syphilitic. Very likely it was a case of hereditary syphilis with the above nervous symptoms.

GALLIARD brought forward a young girl, sixteen years old, who had been afflicted during the year with a chronic pulmonary tuberculosis aggravated by an acute inflammation of the deposits in the lungs, especially in the pleura, and a peritonitis with possibly a meningitis. Later there appeared a tender swelling over the joints of the fingers, toes and knees. While this pseudorheumatism was developing there also appeared diaphragmatic pleurisy on the left side. The heart, however, escaped entirely. All these conditions ended in resolution. A collection of pus, however, appeared in the thigh, which seemed to play the part of an "abscess of fixation." Later the young patient left the hospital in about the same state as she entered it, namely, with a tuberculosis localized at the apices of both lungs.

PITRES, at the Academy of Medicine, November 5, 1901, gave the following points on the value of Jacksonian epilepsy in the diagnosis of lesions of the cerebrum. He said at the time that it is well established that these lesions are able to provoke a partial epilepsy, although they do not in themselves possess a definite location, because they may be situated within the motor area or outside of it. In either case it does not appear that the characteristics of the convulsions are modified to a large degree. On the other hand it would not be right to pretend that partial epilepsy has no diagnostic value. If it occurs with definite features, if the motor aura is well localized, if the convulsions begin distinctly at the periphery and work slowly toward the center, if the patient is conscious and can give information as to their point of origin and the manner of their development, if they are accompanied by pure monoplegia or by definite other paralysis, there will be very great probability of making a correct diagnosis as to the location of the lesion. In such a case it will usually be found near the cen-

ter which is first affected, but it is by no means certain, especially if the lesion is a tumor. There is another fact which we must acknowledge, namely, that the entire number of facts thoroughly settled is small, and that after all we do not yet understand what is the true origin of Jacksonian epilepsy. Ordinarily we reason that the cause may be single, whereas probably it is multiple. It is somewhat likely that the lesions depend upon a discharge from the cortical centers, as Jackson originally taught. In other cases, however, as is claimed by Adamkievicz, the fit is due to direct compression or irritation of the subcortical centers. It is therefore apparent that all these facts cannot be explained by any one theory, and, indeed, no two theories together account for them all. One wishes one could understand how these epileptic convulsions can develop with or without lesions of the motor zone, and how they can be cured in a few cases by decreasing the intracranial pressure by a simple trephining, while they can in other cases continue to act, although all the cortical centers which correspond to the first symptom have been removed. With these points in mind, it is not surprising that often when one opens the skull and expects to find a definite cause of the trouble present itself within the field of operation, one should be mistaken and discover nothing that calls for operation.

ALBARRAN, at the Surgical Society, October 30, 1901, read some new statistics on the subject of subpubic prostatectomy. He has found four hundred records. He has himself performed the operation seven times with one death, but he has ceased to employ this method because the results do not appear to him to be satisfactory. The perineal operation, on the other hand, he considers much better and indicated in the majority of cases of hypertrophy. It is contra-indicated only when there is severe cachexia, pyelonephritis of both sides, periprostatic abscess or severe infection of the bladder. This form of operation is usually thought less dangerous. Of sixteen cases which he has treated in this way, none have died, although they were all old men and in poor general and local condition for the most part. Eight are absolutely cured, three are still getting better and four others were operated on so recently as to make a present prognosis impossible. The sixteenth patient of this series he has not seen since operation.

WALTHER, in behalf of Brossard (Cairo), read notes of a case of removal of the astragalus for an old dislocation. The patient was a woman, forty-two years old, and was seen by the surgeon at least one month after the accident. The dislocation was forward and outward. Removal of the bone was proposed and accepted by the patient. After the operation was over it was noted that a small fragment of the bone belonging on the posterior and internal surface was lacking. The result, however, was excellent and there was no difference in the use of the limb nor in the imprint of the foot, as compared with the other side. Brossard offered the opinion that this happy outcome was probably due to the fragment of the bone which remained behind. The X-rays tended to bear out this supposition. On the other hand he could not accept without some reservation the theory that so comparatively small a part of so important a bone could be responsible in itself for the good result.

TOUCHE, at the Society of Biology, November 2, 1901, showed a series of charts on which he had plotted various lesions found in a number of patients who had had right hemiplegia and aphasia. Examination of his charts seems to prove that lesions of the island of Reil play a very important part in the production of pure motor aphasia.

SUBSTITUTION.

To the Editor of the MEDICAL NEWS:

DEAR SIR: It has been a source of much satisfaction to us to note the strong attitude which the MEDICAL NEWS has taken against the substitution and adulteration evil, as evidenced by recent editorials on this subject. To give you an example of the extent to which these nefarious practices are being carried on, we would say that we recently unearthed in Detroit a conspiracy in which certain criminals, trading under various names, were selling to druggists bogus products, put up in counterfeit boxes, in place of a number of our products.

How these so-called medicines were put up by them is clearly shown by the following answers to questions given by witnesses in hearings before the Court and the prosecuting attorney.

John A. Jenkins, an employee of L. J. Fulmer:

Q. How did you know what went into the boxes?

A. I didn't know.

Q. Then how did you know what labels to put on these boxes?

A. Well, I didn't know that either.

Q. Then you don't know but that you have got phenacetin in sulfonal boxes?

A. I don't know that either.

Q. Nobody told you?

A. Nobody told me.

Charles A. Bailey, connected with U. S. Treasury Department:

Q. What was the conversation?

A. We were talking about the price of phenacetin and the competition going on. If I might be allowed to explain my visit to Fulmer you would understand the case better, and I do not think that it would hurt this case any. . . . Asked him if he did not fear they would injure his business by underselling, and he told me he did not; he thought he could undersell all of them.

Q. How, or by what means did he state?

A. Well, he did not sell a "straight" phenacetin.

Q. What did he say he mixed with it, if anything?

A. This gentleman has just given it a new

name—acetanilid, I have called it, but he put the accent in a different place.

Dr. H. Schweitzer, Expert Chemist:

Q. Are the contents of the larger package phenacetin Bayer?

A. The larger—of the larger box. They are not either. It is a mixture of acetanilid and phenacetin.

Q. Are those labels which you found upon the two packages the genuine phenacetin Bayer label, or *counterfeit labels?*

A. They are *counterfeit labels.*

It seems incredible, but it is an absolute fact, as the books of the Detroit gang which were seized by the police show, that thousands of druggists from all parts of the country purchased these adulterated drugs and dispensed them on prescriptions. Their names are in our possession, and we shall of course proceed against them. It will be of interest to your readers to know that with the aid of the medical profession we have been in a position to trace in the past a large number of sophistications, and to show how widespread this nefarious practice is, we quote a few letters from physicians and druggists.

"Reading the article on aristol leads me to say, recently I had some from a drug-store that seemed inert, so that I got some at a very reliable store, and there was the greatest difference.

"(Signed) A. G. HITZEL, M.D.,
"9 East Parade Ave., Buffalo, N. Y."

"March 2, 1901."

"Enclosed you find a sample (bought by a patient) of aristol. As I found it did not do well on the patient I send you some of the same, and your letter mailed to me. You see I have not forgotten the matter. This was bought of ——. Kindly let me know.

"Signed) A. G. HITZEL, M.D.

"October 23, 1901."

"The enclosed was dispensed on a prescription for trional by one of our local druggists. Can you tell me what it is?

"(Signed) H. A. FRANCISCO, M.D.,
"99 Center St., Rutland, Vt.

"March 13, 1901."

"This day I send you another sample of what is said to be phenacetin; it came from a bottle I should say held a pound, and it has no mark on it. I can purchase one ounce for 10 cents, so I can hardly believe it is pure. Send me a sample of pure, and give me price per lb., as I wish to use the pure in a tablet.

"(Signed) D. E. CAREY, M.D.,
"206 E. Water St., Elmira, N. Y.

"March 15, 1901."

"Last month my wife was in New Orleans and had occasion to purchase some trional which she frequently takes for insomnia. I enclose you one of the powders which she purchased, believing it is not trional, but a spurious article which is being dispensed under that name. My wife took only one of the powders; she noticed the difference and was afraid of the others. The one she took had no effect.

"(Signed) JNO. E. THATCHER,
"201 Patterson Ave., Dallas, Texas.

"March 10, 1901."

"I enclose a powder dispensed as sulfonal. The taste of it seems to me much sweeter than other earlier samples, and the effect not so reliable. Is this genuine?

"(Signed) Ross P. Cox,
"Rome, Ga.

"November 10, 1900."

"I enclose you two sides of 1 oz. package of sulfonal I purchased in October, '99. I put up 24 powders of same for customer October 18th, and she informs me that they are not like she has been getting from a Chestnut Street firm, and considers mine as not being sulfonal *pure.* I have tasted one of my powders and one of the others and find them different. My sulfonal is not like the last box I received from the same firm and I am at a loss to know how it was possible to get your sulfonal that was not O.K. I send you two powders, one from my box and one from the other firm, and can you tell me how I got sulfonal in the package that is not pure? I cannot think it possible that it was changed in my store. I have inquired from each of my clerks and they positively assert that they have not touched it. The powder returned to me certainly contains acetanilid, and I ask if it is possible that such was the case with the package when it left your place.

"Your interest in this matter will be much appreciated.

"(Signed) J. G. HOWARD,
"Broad and Fairmount Ave., Phila., Pa."

An analysis of the contents of the boxes and of other boxes purchased in the open market at different times shows that acetanilid is sold by druggists as phenacetin and also as trional and sulfonal; that acetanilid is mixed with either phenacetin, trional, or sulfonal in proportions up to 50 per cent., and sold as the genuine article. A mixture containing caustic soda, a large percentage of organic bodies insoluble in ether, etc., is sold as aristol. As is well known, caustic soda is in itself a pronounced irritant, and, when in combination with an iodine-containing compound (such as the fraudulent aristol alluded to), it acts even more injuriously by liberating the iodine much more rapidly and in larger quantities than occurs when pure aristol comes in contact with the secretions of a wound. The large amount of iodine thus given off acts not only as a local irritant, but also as a systemic poison.

Both the physician's reputation and the welfare of his patient are at stake in this matter. When, therefore, we protect ourselves against these criminal practices we believe that we are equally protecting the medical profession, to whose approval our products owe whatever popularity they possess.

We, therefore, appeal to your readers for their support by urging them to patronize only those druggists whom they know carry in stock the preparation prescribed, and by communicating to us the name of any pharmacist whom they have discovered in the act of substitution.

We would request physicians who suspect the quality of drugs purporting to be of our manufacture to send us the original packages with contents for analysis. We shall replace the goods from our own stock and report results to them, so that they may protect themselves and their patients against frauds of this kind.

FARBENFABRIKEN OF ELBERFELD CO.

New York, November 26, 1901.

SOCIETY PROCEEDINGS.

NEW YORK STATE MEDICAL ASSOCIATION.

NEW YORK COUNTY BRANCH.

Stated Meeting Held November 18, 1901.

The President, Parker Syms, M.D., in the Chair.

Rectal Carcinoma.—Dr. John F. Erdmann presented a specimen of carcinoma of the rectum from a patient seventy-eight years of age. The general condition was fair, and though the patient's age seemed a contraindication, it was thought advisable to remove the malignant growth in order to relieve symptoms and if possible prolong life. The tumor was excised without difficulty and recovery was very satisfactory.

SYMPOSIUM ON TYPHOID FEVER.

The first paper was read by Dr. James Ewing on the subject of Serum Therapy in Typhoid Fever. This paper will appear in a subsequent issue of the MEDICAL NEWS.

Typhoid Fever in New York City.—Dr. John H. Huddleston read a paper on the epidemiology of typhoid fever in New York, and said that when a case of typhoid fever is reported to the New York Board of Health an inspector is sent out to inquire into the circumstances of the case. The subjects with regard to which questions are asked are especially the source of the family milk supply, the sanitary conditions of the neighborhood with special reference to the occurrence of typhoid fever; the possibility of contact with other cases of typhoid; and, finally, with regard to bathing along the water front of the city, to which cause some cases of typhoid fever seem directly attributable.

Typhoid Statistics.—The reports of the Board of Health show that typhoid fever is constantly present in the city. During March of the present year the minimum number of cases reported weekly was seven, while 170 cases were reported in one week of September. The statistics for a number of years taken together show that the disease is comparatively light in March, April, May and June; that it rises markedly during July and August and reaches a maximum in September and October. The decline begins in November and reaches a minimum in February and March.

Origin of Cases.—Taking the report of 755 cases investigated, in 635 the patients had not been outside the borough of Manhattan for a considerable time prior to the contraction of the disease; 120 of the patients had been outside of the city and might have contracted the disease elsewhere. Taking the opinion adopted by the Clinical Society of London, which has the approval of Dr. Osler, the incubation period of the disease is from eight to twenty-two days. According to this at least 113 of the 120 who had been outside the city were infected before arrival here. Ninety of the cases were ill when they returned to the city for treatment.

Causes of the Disease.—In 34 cases the patients reported that they had been bathing along the water front, and in some at least of these cases there was good reason to think that the contamination of the river water with city sewage had provided the infectious material swallowed during bathing. Though it is often stated that typhoid fever is more frequently due to milk, and especially to the poorer grades of milk, it is extremely difficult to trace any direct connection between the milk supply and most of the reported cases of the disease. In a large number of cases affected families used condensed milk, and some of the patients used no milk at all. A small number of cases occurred among laundry employees. It seems clear in these cases that the disease developed as the result of contagion from the contaminated garments of typhoid fever patients. Seven nurses developed the disease; six of them while nursing private patients and one of them in hospital practice. One doctor developed the disease, evidently contracted from a patient whom he was attending. Taking a definite part of the city, it is interesting to note how the cases of typhoid fever are grouped. The distribution is rather uniform, not a single street escaping without its case. One street showed twelve cases in about two years. This was all the more striking, as the streets just above and below had seven and eight cases respectively, and it seemed as though something in the surroundings must favor the occurrence of the disease; but investigation showed that there was no common ground for the etiology of the disease. Six out of the twelve cases on this street developed as the result of infection outside of the city. Only three of the families in which typhoid fever developed obtained their milk from the same source. This same accidental grouping of cases was noted in other parts of the city. On the other hand cases sometimes develop in groups as the result of contact without proper precautions. In one neighborhood on the East Side 27 cases developed along one street, and a large number of these cases were due to the fact that most of the members of two families contracted the disease through carelessness. It is evident, then, that so far as regards New York, no definite cause can be found for many of the cases

of typhoid fever. There is some underlying condition as yet unknown, to which most cases seem to be due. No conditions of locality, nor of water, nor of milk supply enable us to decide the origin of these cases. The importation of cases from without and subsequent contact with others in the city undoubtedly **has** something to do with its continuance and spread, but this does not acount for all of the cases. The investigation of this subject of the etiology of typhoid fever remains, then, as one of the most important problems to be dealt with in the city's sanitation.

The next paper on the program was read by Dr. Robert Abbe on the Surgical Complications of Typhoid Fever. This paper will appear in a subsequent issue of the MEDICAL NEWS.

In the absence of Dr. Hermann M. Biggs, Dr. Alexander Lambert, at the invitation of the President, made some remarks on the clinical diagnosis of typhoid fever.

Reasons for Difficulty of Diagnosis.—Dr. Lambert said that some of the reasons for the extreme difficulty often encountered in the diagnosis of special types of typhoid fever had been brought out this evening by Dr. Ewing in his discussion of the different bacteriological peculiarities of the typhoid bacilli. Typhoid infection is not a single process and the infectious material in different cases is not always similar. Some of the symptom-complexes that are classed as typhoid fever are probably not true typhoid, but a bacillus-coli communis septicemia. Among the German soldiers who took part in the siege of Paris in 1871, typhoid fever was very common. It had many of the classical symptoms of the disease, but ran an almost absolute afrebrile course, the maximum temperature being seldom above 100° F. Soldiers were very sick with the disease, and yet had a temperature of only 99° F. It would seem that the more or less exhausted condition of the men after their severe campaign reacted with some peculiarity of the special bacillus of the epidemic to produce this anomalous type of the disease. In a series of cases reported some time ago among the nurses at a hospital the fever, though typhoid in many of its symptoms, lasted only two weeks instead of the usual twenty-eight days, and the fever fell by crisis instead of by the normal lysis. There were many severe complicating symptoms during the epidemic that were surely typhoid in origin, though the general affection ran such an anomalous course.

Pathognomonic Signs.—For the diagnosis of typhoid fever the important things are the symptoms that arouse suspicion of the character of the disease early in its course. Of these the most important is the extremely low tension of the pulse, which is characteristically different from the bounding pulse of pneumonia, the running pulse of sepsis or the wiry pulse of abdominal affection. Under the finger the pulse of typhoid fever lacks tension to a remarkable degree and can be obliterated with extreme ease. During the first week a pathognomonic clinical symptom is the ladder-like rise of temperature, which can be readily recognized if the temperature record be kept. Very early in the disease there occurs a marked benumbing of the special senses, all of the senses being affected and in at least 90 per cent. of the cases the patients are much more incapable of being aroused to interest in anything than can be accounted for by their physical symptoms. The name of the disease is, of course, drawn from this characteristic mental hebetude, and it is a striking symptom. Patients dream badly and, though restless, pay little attention to their surroundings. It is from a combination of all the symptoms and not from any one pathognomonic sign that typhoid fever must be diagnosed. It was hoped that the Widal reaction would prove the touchstone for typhoid diagnosis, but it does not occur early, is at times entirely absent, and not infrequently does not occur until convalescence has set in. With regard to the Widal reaction one must be grateful if one finds it, but one must learn to get along without it. At first it was said that 96 per cent. of the cases of typhoid fever showed the Widal reaction. Great variations in opinion exist as to the time that may be allowed to elapse before the characteristic clumping occurs and yet this sign is supposed to show a positive reaction. Where the Widal test is positive it is pathognomonic; where it is negative it means nothing.

Microscopical Confirmation.—The microscope can be of great service in confirming the diagnosis of typhoid fever in a suspicious case or at times of reversing it. The malarial organism should always be looked for and the leucocyte-count should be made. The differential count of the leucocytes is an important proceeding in typhoid diagnosis. In ordinary blood 66 per cent. of the white cells are polynuclear leucocytes; in the blood of the typhoid-fever patient 60 per cent. of the white cells are mononuclear leucocytes. This complete reversal of the proportion of mononuclear and polynuclear leucocytes present is pathognomonic of typhoid fever. In one case reported to the Board of Health as possible typhoid fever the Widal test was negative. A blood-count showed that there was a marked leucocytosis present, some 22,000 white cells. It was suggested to the attending physician that an abscess might be present in the case. He telephoned later that an ischiorectal abscess had been found and opened and that the patient's fever had come down at once and his general condition improved. Dr. Delafield used to remark that nothing was too irregular for typhoid fever. Notwithstanding all the advances in diagnosis in recent years, typhoid fever remains one of the most trying problems in diagnostic differentiation. Too great confidence will surely lead to mistakes.

Treatment of Typhoid Fever.—Dr. A. A. Smith said that there is no specific for the treatment of typhoid fever, and the most interesting recent work that concerns the specific care of the disease is the manufacture of prophylactic serum. The employment of this is as yet too recent and

the theories on which it is employed too unsettled for the practitioner to find anything very satisfactory in it. With regard to the abortive treatment of typhoid fever, Dr. Smith does not think that any one has ever succeeded in causing typhoid fever to run a shorter course by any remedial measures. Typhoid fever is sometimes aborted, but its abortion is due not to the drugs employed, but to natural agencies whose mode of action we do not understand. With regard to the treatment of symptoms in typhoid the first thought is always the fever. To combat this baths are employed. They seem to have an effect in neutralizing the toxins of the disease which act upon the heart muscles. It is not probable, however, that this tonic action on the heart is different from that of the stimulation of the nervous system. Dr. Smith's personal preference is for the bed-bath rather than the tub-bath. In his wards at Bellevue Hospital and in his private practice the following method of bathing is used almost exclusively: A rolled blanket is placed on each side of the bed and over these a large rubber horse-cover is placed. Pillows are placed at the head and foot of the bed, beneath the rubber blanket, and into the trough thus formed water is poured, at first at a temperature of 90° F., not at 70°, as sometimes suggested. Cooler water is then slowly added. In the meantime the patient is sponged off, care being taken, however, not to produce any sense of discomfort. This method has many advantages, the chief of which is its convenience and inexpensiveness. A horse-cover can be obtained for a couple of dollars. Its employment does not seem so formidable to the patient and so it is apt to be used earlier and oftener in the case than a more elaborate bathing apparatus, as very little movement is required to give the patient the bath. This is of itself a valuable consideration.

It is a question if the complete reduction of fever is to be desired. Fever stimulates cell action and so enables the organism to resist the toxic effects of the disease upon the system. The temperature should not be reduced below 101° F. in the rectum. Baths are the best agent for the reduction of fever, but during the third week great care should be exercised in their employment. Very rarely should more than three be given in the day and at times one will suffice, even though patients may be somewhat restless. As a rule in patients over fifty-five years of age the bath should never be given at a temperature below 80° F. In older people and in children a wet pack at about 60° F. is a better method of reducing temperature than a bath. In general, age is always an indication for the modification of hydrotherapeutic measures in typhoid fever.

Constipation.—At the beginning of typhoid fever a mercurial purge is the best, and calomel seems the most favorable form for its administration; but it should not be repeated more than twice at the beginning of the disease. Then, if constipation continues some other laxative, as cascara or a mild saline, should be administered. After the eighth to the tenth day of the disease no laxative should be employed, the physician should rely upon enemata to move the bowels. Dr. Smith believes that the use of large injections favors perforation. Enemata should be employed, but not in greater amounts than a quart of liquid, and usually a pint suffices for the purpose. They should be given at about the body temperature; besides removing decomposed material, they help very materially to get rid of flatus. Despite the prejudice against them that has developed in recent years, Dr. Smith does not believe that the use of the coal-tar antipyretics should be entirely abolished. They should be given in small doses. Phenacetine in combination with spirits of ammonia is the best one. Their special indication is for nervous discomforts and headaches. They should not be used with the idea of lowering temperature. Whenever the patient's nervous symptoms are not relieved by the bath, the coal-tar products combined with some heart stimulant should be used. This rule is especially to be observed during the first stages of the disease. If the patient becomes restless during the third week, alcohol and the heart stimulants should be employed freely. The administration of alcohol should not be a routine practice in typhoid fever, but it should be given as indicated. If patients were alcoholic before the development of the typhoid, then alcohol must be used early in the disease. In other cases the indication for its administration is a rise in the pulse rate to 120, especially if the pulse becomes variable or intermittent. Other indications are the development of apathy with subsultus tendinum or carphologia. The most important of the heart stimulants is strychnine. This does not seem to act directly upon the heart, but on the nerves supplying the heart. Another important heart stimulant is caffeine; and, where strychnine or caffeine fail to stimulate, oil of camphor should be used hypodermically. In general camphor should be used much more than is at present the custom.

Intestinal Hemorrhage.—There is no specific for the treatment of intestinal hemorrhage. Dr. Smith believes very little in the efficacy of the so-called hemostatic drugs. The best means to stop the bleeding is to produce absolute quiet by the administration of opium and to give as little food as possible, thus keeping the bleeding vessel at rest until Nature has sealed it. The orthodox treatment of ice-bag to the abdomen in this case Dr. Smith believes to be a mistake. Application of cold favors the continuance of bleeding from the intestine by driving the blood from the vessels of the abdominal wall to the internal viscera.

Diet.—The most important thing is a nearly exclusive milk diet. To this should be added some salted liquid. Three pints of milk and as much water constitute an excellent dietary so far as liquids are concerned. Where milk can not be taken, eggs may be employed. Broths should usually be added to the dietary in order

to avoid the monotonous effect of milk alone. An absolutely fluid diet should be maintained for at least eight or ten days after convalescence is established, that is, after the patient's temperature has reached normal. Dr. Smith is opposed to any more liberal diet. There is a tendency to think the typhoid-fever patients would be better if a more varied diet were allowed. Some physicians have even counseled the admission of meats and certain vegetables, in a finely-divided state of course, to the ordinary dietary.

Preperforative Stage.—In the discussion Dr. Kinnicutt said that one of the most important things in the present interest in typhoid is the question of the early recognition of intestinal perforation. Cushing of Johns Hopkins has described a preperforative stage from the time when the serosa begins to form adhesions until it breaks down as the result of the ulcerative invasion. The most important warning symptoms of perforation are abdominal pains, localized tenderness and leucocytosis. Subjective symptoms, especially if localized, must always give rise to apprehension. A sudden development of leucocytosis with localized tenderness always means threatened perforation. To these signs Dr. Kinnicutt adds another observed in the wards of the Presbyterian Hospital. This is a localized, fine peritoneal crepitation, similar to that occurring in the pleura or pericardium, which can be detected by careful auscultation over the entire abdomen. If this sign is obtained the diagnosis of threatening perforation is made. If there be tympanites and rigidity of the abdominal muscles and if abdominal breathing be interfered with, then, of course this crepitation will not be obtained. It is due, as in the case of the pleura and pericardium, to the rubbing of inflamed serous surfaces over one another. Dieulafoi states that in his experience perforation of the intestine with extravasation of the intestinal contents is invariably followed by a fall in temperature, but in five cases in Dr. Kinnicutt's experience at the Presbyterian Hospital, this did not occur. The temperature was not affected in any of the cases, although in all the diagnosis of perforation with extravasation was confirmed by operation or autopsy.

Unusual Complications.—Dr. Nathan Brill reported certain unusual complications of typhoid fever. In an epidemic of the disease at Mt. Sinai Hospital among the nurses, 22 of the hospital attendants suffered from the disease and all of them had the infection in virulent form. None of the cases proved fatal, but many suffered from peculiar complications. In three cases otitis media developed; in two there were symptoms of mastoiditis. Under the use of a Leiter coil this subsided. In two cases in private practice Dr. Brill has seen the development of central deafness as a complication of typhoid fever. This complication is not mentioned even in Curschmann's article on typhoid fever in Nothnagel's system.

Surgery of Typhoid Fever.—Dr. Murray said that if Dr. Smith's diet regulations were followed there would be less need for surgery in typhoid fever. He considers the crepitation sign as described by Dr. Kinnicutt as of very great importance. Operation for typhoid perforation will very often be successful if performed during the first eighteen hours after the accident. The evident duty of the medical man is to call the surgeon in early. Thirty-two per cent. mortality means a great saving of patients when we consider that formerly just so many of them perished. Dr. Finney's suggestion of a small opening under cocaine for exploratory purposes is very useful. If perforation is found, general anesthesia should be employed.

BOOK REVIEWS.

THE PATHOLOGY AND TREATMENT OF SEXUAL IMPOTENCE. By VICTOR C. VECKI, M.D. Third Edition. W. B. Saunders & Company: Philadelphia and London.

THIS is one of the numerous works on this subject which have appeared within the past half-dozen years. In the main it is sound, with enough of the prurient to attract the curious, and sufficient science to satisfy the moderately enlightened.

The ideal work bearing on sexual hygiene still remains to be written, as but few of the modern writers, excepting perhaps Moll and his school, have any persuasive conception of the normal variations in the sexual life.

A GUIDE TO THE CLINICAL EXAMINATION OF THE BLOOD FOR DIAGNOSTIC PURPOSES. By RICHARD C. CABOT. Fourth Revised Edition. William Wood and Company: New York.

IN Cabot and in Ewing, American medicine can lay claim to an easy superiority in works on the pathology of the blood. This last edition of Cabot is a distinct improvement and enlargement of his last edition. In the matter of technic there is much of value that might have been added, notably in the section devoted to staining. Much can be said against the advisability of giving a great number of staining methods, yet to limit the student of hematology to two or three is, we believe, unwise. It is sufficient to say that the author's wide experience renders the book one of very great value; however, there is less evidence of wide bibliographic research that makes the book less universal than Ewing's, but it may be said that for the student of hematology, both volumes are requisite.

The illustrations have been greatly increased in number and are for the most part very excellent, although in a few instances they seem to us to be miserable, notably the small-sized reproductions of photo-fields, on pages 150, 151 and 257. Those illustrating the malarial parasite are satisfactory.

The work is so very excellent that to pick out such small defects appears to be cavilling, yet there is one serious fault, it seems to the reviewer, and that is the introduction of so much tabular

matter. The information contained in these in most cases could be conveyed in a few carefully-prepared lines. In many cases these tables are simple reproductions from original monographic studies and have no place in a book of this kind, save to fill space or to avoid the necessary work in condensation and comparison with other tables of a like or unlike character. There is also, we believe, an undue proportion of space given to the work done in certain laboratories, excellent though this may be, much of it being given with almost monographic completeness. This is, we know, an almost necessary technical fault entailed in revising old plates, the author often being compelled to interpolate new observations between old paragraphs instead of being able to rewrite the whole subject.

Apart from these minor technical matters the book is to be most cordially commended.

THE PRINCIPLES AND PRACTICE OF MEDICINE. Designed for the Use of Practitioners and Students of Medicine. By WILLIAM OSLER, M.D. Fourth Edition. D. Appleton and Company: New York.

DR. OSLER'S "Practice" has stood, since its first edition, as the highest type of a text-book of general medicine. Each succeeding edition has made it more complete and valuable and in its present and fourth edition it appears with many new and important additions.

In the preface Dr. Osler tells us that the chapter on typhoid fever has been entirely recast; the descriptions of dysentery, plague and yellow fever have been amplified and made more available, especially for the student of tropical medicine. The chapters on pneumonia, diphtheria, smallpox, cerebrospinal fever and rheumatic fever have been added to, especially along lines of diagnosis and treatment.

We are particularly glad that the chapters on gout and on arthritis deformans have been given so much careful revision. Dr. Osler is in the leading column of students in the study of joint affections and there still remains much to be made clear along these lines. The important subject of pancreatic diseases has also been almost entirely recast. The chapter on diseases of the liver has been altered but slightly; it is perhaps one of the least satisfactory chapters in the book.

The revision has been thorough and painstaking and the profession is to be congratulated on being able to possess such an admirable work in comparatively small compass.

PHOTOGRAPHIC ATLAS OF THE DISEASES OF THE SKIN. By GEORGE HENRY FOX, A.M., M.D. Parts III., IV. and V. J. B. Lippincott Company: Philadelphia and London.

IN Parts III., IV. and V. the following lesions are illustrated and described: Lupus erythematosus, lupus vulgaris, syphiloderma papulosum, vitiligo manum, lichen planus, rosacea erythematosa, alopecia areata, psoriasis nummulata, pityriasis circinata and pemphigus, sycosis, scrofuloderma, syphiloderma papulo-squamosum, eczema papulosum and morphœa.

As we have already stated in a review of the previous parts, Dr. Fox's atlas is an invaluable one and no practitioner who sees many skin lesions can justify himself in not having this excellent series of plates. Such high praise is rarely justified for a medical publication, but we believe that it is merited in the present instance.

A MANUAL OF DETERMINATIVE BACTERIOLOGY. By FREDERICK D. CHESTER, Bacteriologist of the Delaware College Agricultural Experiment Station, etc. The MacMillan Company: New York.

To those who have used Chester's work on the Coccaceæ in the difficult task of keying out unknown species, this work will prove a godsend. In fact, all bacteriologists the world over have been hoping that some one would attempt to bring order out of chaos in this difficult field. Sternberg and Migula laid the foundation and Chester has given us a completed fabric. It will undoubtedly be found faulty in places, but all manuals of this type have their faults The student of botany, the hygienist, and the physician are the richer by the publication of this important work.

MODERN OBSTETRICS: GENERAL AND OPERATIVE. W. A. NEWMAN DORLAND, A.M., M.D., Assistant Demonstrator of Obstetrics, University of Pennsylvania; Associate in Gynecology, Philadelphia Polyclinic. Second Edition. W. B. Saunders & Co.: Philadelphia and London.

As the second edition of the work of an American author this volume requires no introduction and calls only for an outline of its points of variation from the first edition. It is divided, as was its predecessor, into physiological and pathological obstetrics. Each of these parts shows enlargement and revision, particularly the pathological portion. The mechanism of labor is described quite in detail. New sections deal with the surgical and serum treatments of puerperal sepsis, a subject of which all the aspects are discussed with great thoroughness, with infant mortality, and with obstetrical pathology. Recent views regarding placental transmission of disease and the rôle of the liver in eclampsia naturally claim attention. The work is in some ways more suitable for reference than as a text-book, as the views of a number of men upon a subject or a list of methods of treatment are often given without an expression of opinion as to their relative values for which a student naturally looks to his informer. In the directions for protecting the perineum, for example, he would be left with a confused idea of a large number of methods and no indications for a choice of these. It is to be regretted that so valuable a resource as the bag of Champetier de Ribes is passed over with the remark that it is superior to that of Barnes, while the latter is

shown in an illustration and the technic of its introduction is described. Aside from these criticisms the work must be favorably regarded. As a book of reference it is useful, presenting the subject of obstetrics systematically and comprehensively. Where treatment is indicated it is usually satisfactory.

A MANUAL OF THE PRACTICE OF MEDICINE. By GEORGE ROE LOCKWOOD, Attending Physician to Bellevue Hospital, New York. Second Edition. W. B. Saunders and Company: Philadelphia and London.

THE first edition of this work, which was so favorably received, has now been thoroughly revised, many portions being entirely rewritten and numerous important sections added. It has been the aim of the author to give the principles of the practice of medicine in a concise and available form, making it a convenient book for the busy practitioner, but it seems especially suitable for use by students who require, first of all, a concise and accurate foundation of the principles of medicine unobscured by a mass of needless references and complications. The chapters upon the circulatory and respiratory systems, together with the physical signs of the same, are especially worthy of most careful study and contain many most valuable hints in diagnosis. The chapter on malaria has been entirely rewritten, the description representing the results of the latest investigations upon that subject. Stomach examinations and the analyses of gastric contents which have now come to be such an important factor in estimating digestive ability have received special attention, the material being an addition to this edition and including sections on gastroptosis, Reichmann's disease, gastric atony and gastric neuroses. The book is written in a concise, but interesting manner and deserves an even more hearty welcome by the medical profession than was accorded the first edition.

STUDENT'S MANUAL SERIES ON DISEASES OF THE SKIN: ECZEMA. By L. DUNCAN BULKLEY, A.M., M.D., Physician to the New York Skin and Cancer Hospital; Dermatologist to the Randall's Island Hospitals; Consulting Physician to the New York Hospital, Hospital for Ruptured and Crippled, and Manhattan Eye and Ear Hospital, etc. Third Edition. G. P. Putnam's Sons: New York and London.

A THOROUGH knowledge of this most prevalent skin disease is exceedingly valuable to every practitioner of general medicine. This conveniently-sized manual embodies the experience of a close observer during the past thirty years and while giving a scientific description of the disease, it has been the purpose of the author to make the book as practical as possible and most fitted for ready reference. Much space has been devoted to diagnosis, especially the differential diagnosis from other similar skin diseases, each being taken up in order and thoroughly discussed. A large number of valuable prescriptions are given under the therapeutics of the disease and detailed information offered concerning the special application of each to particular phases of the malady. The aim of the author "to lead to the ready recognition and successful treatment of the disease" seems to have been well attained.

DOSE-BOOK AND MANUAL OF PRESCRIPTION WRITING. By E. Q. THORNTON, M.D., Ph.G., Demonstrator of Therapeutics, Jefferson Medical College, Philadelphia. Second Edition. W. B. Saunders and Company: Philadelphia and London.

THE portion of this book devoted to the writing of prescriptions, Latin terminology, incompatibilities, dosage and administration shows the hand of one who is not alone familiar with medicine, but also with pharmacy. But the main bulk of the work is occupied with an alphabetical list of official and unofficial drugs and their preparations, with doses and slight further information. There is too literal translation between the metric and English systems, as, for example, the dose of ipecac is given as ½ to 31 grains, and that of compound powder of jalap as 2.59 grams. The dose of the fluid extract of digitalis is put as $^1/_{10}$ of the tincture, though the fluid extract is only 6⅔ times as strong. The formula given for Warburg's tincture is not that of the National Formulary, but an impractical one containing confect. democratis, bolet. laricis, etc. In spite of such criticisms, however, we believe the work to be the best of its kind; and it would be welcomed by the medical student were it not that a lavish waste of space in the printing makes the volume too cumbersome for the pocket, and, in proportion to its contents, too expensive.

MATIÈRE MÉDICALE ZOOLOGIQUE. Histoire des drogues d'origine animale. Par H. BEAUREGARD, Professeur à l'Ecole Supérieure de Pharmacie de Paris. C. Naud: Paris.

IT IS an interesting comment on the reversal of the order of things to find this work of 400 pages devoted exclusively to the study of animal products and their therapeutic uses.

In the works on medicine of the Middle Ages much space was devoted to animal products, but their number has slowly diminished and up to comparatively recent times a bare half-dozen sufficed. For the past decade more and more attention has been devoted to animal products and this excellent volume is an outward visible sign of this interest.

It is the most complete work on the subject with which we have come in contact and it is very largely a work embodying much actual research, other than the usual industry of the compiler of monographs from literary sources. In the chapters on the odoriferous principles of musk, ambergris, etc., there are to be found a large number of new facts, also in the chapters on the irritative secretions of insects. This work is to be most heartily recommended.

A TEXT-BOOK OF DISEASES OF WOMEN. By CHARLES B. PENROSE, M.D., Ph.D., formerly Professor of Gynecology in the University of Pennsylvania; Surgeon to the Gynecean Hospital, Philadelphia. Fourth Edition, Revised. W. B. Saunders & Company: Philadelphia and London.

IT IS definitely stated that the author intends this work to be a text-book for students and the various theories and causations of gynecological disturbance are therefore to be simply and lucidly stated. That there may be no confusion as to the proper operation for the various conditions met with, but one operation is described in each case or condition. We doubt the wisdom of this as the object of any text-book is to give the student a bird's-eye view of what can be done and, at the same time, at least make him familiar with the names or general outline of several different operative procedures in any given condition.

In Chapter XI. the text is at variance with the majority of authorities with reference to the histological contents of the bands or ligaments formed in uterine suspension after the uterus has been sutured to the abdominal wall. Kelly and the larger majority of writers hold that these bands are composed of the drawn-out fibrinous exudate from the peritoneum, while the author says they contain muscle fibers and peritoneum.

The chapter devoted to the diseases of the bladder and its appendages is decidedly meager and incomplete. Cystitis is spoken of in a general sort of way and the various etiological factors (bacteria, etc.) in its causation are entirely ignored. There is little or no mention made of the kidney in its pathological conditions.

In local and systemic treatment the author gives most excellent methods which are specific and at the same time conservative. This should be of great help to students who usually find text-book treatment too vague for their comprehensions.

The illustrations, which are by Margueretta Washington and others, are exceedingly clear as well as artistic. The many minor changes in the text have added greatly to the value of the publication.

A TEXT-BOOK OF MEDICINE. For Students and Practitioners. By Dr. ADOLF STRÜMPELL, Professor and Director of the Medical Clinic at the University of Erlangen. Third American Edition. Translated by HERMAN F. VICKERY, M.D., Instructor in Clinical Medicine, Harvard University, and PHILIP COOMBS KNAPP, M.D., Clinical Instructor in Diseases of the Nervous system, Harvard University; with Editorial Notes by FREDERICK C. SHATTUCK, M.D., Jackson Professor of Clinical Medicine, Harvard University. D. Appleton and Company, New York.

PROF. STRÜMPELL'S text-book is too well known to need special commendation here. It is encouraging to note that the appreciation for the work grows as time goes on. The author announces that, thus far, translations of his text-book have appeared in the following languages: French, English, Italian, Spanish, Russian, Modern Greek, Turkish and Japanese. Some of these translations, he adds, have had several editions. The present volume represents the third American edition from the thirteenth edition in German.

Professor Strümpell confesses that the task of perfecting his work grows more difficult with every new edition, as scientific workers are making deep and extensive investigations into the many subdivisions of internal medicine with such zeal and skill that it becomes difficult for any one man to keep step with the unceasing progress of investigation in this wide domain and to maintain that complete and universal command of facts and theories which is essential for a presentation of the subject which shall be at once brief and true to the present standpoint of science. There is no doubt that Professor Strümpell has accomplished this self-appointed task about as nearly perfectly as is possible under the circumstances.

The American edition has the advantage of additions by the American translators and by the editor. These usually refer to certain recent advances, as, for instance, to the prophylaxis of the transmission of malaria by the avoidance of mosquito-bites, the status of the Widal reaction and other recent medical work.

The thoroughly practical character of Professor Strümpell's book is the reason for its popularity. The notes on treatment are especially full and eminently suggestive. A typical example is the following passage taken at random from the treatment of cough in tuberculosis: "We try inhalations with a solution of common salt or of the alkaline carbonate, or, if there is much secretion, with solutions of tannin and the balsams, such as turpentine or balsam of Peru. When there is severe spasmodic cough, inhalations with narcotic solutions give some relief, such as cherry laurel water, opium, or bromide of potassium. It is important that the patient should learn to suppress his cough at least up to a certain point. Sips of cold water often quiet the cough, as may also a cough-drop held in the mouth, or a pastille containing the salt found in Ems mineral water."

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

AN AMERICAN TEXT-BOOK OF PATHOLOGY. Edited by Drs. Ludvig Hektoen and David Riesman. 8vo, 1245 pages. Illustrated. W. B. Saunders & Co., Philadelphia and London.

STUDIES ON THE INTERNAL ANATOMY OF THE FACE. By Dr. M. H. Cryer. 8vo, 176 pages. Illustrated. S. S. White Dental Mfg. Co., Philadelphia.

LAMARK, THE FOUNDER OF EVOLUTION. By Dr. A. S. Packard. 8vo, 450 pages. Illustrated. Longmans, Green & Co., New York, London and Bombay.

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SPECIAL ARTICLES.

REPORT OF THE COMMITTEE OF SEVEN ON THE PROPHYLAXIS OF VENEREAL DISEASE IN NEW YORK CITY.

BY THE CHAIRMAN.

THE Committee of Seven appointed by the President of the Medical Society of the County of New York for the "Study of Measures for the Prophylaxis of Venereal Diseases," in pursuance of a resolution adopted by the Society February 25, 1901, begs leave to submit the following report.

The Committee organized April 4th by the election of Dr. Prince A. Morrow, as Chairman, and Dr. L. Weiss, Secretary. A number of meetings have been held.

As the study of measures for reducing the morbidity and mortality from venereal diseases was the object of the Committee's creation, it was thought that some definite knowledge of the magnitude and extent of the evil and the nature and causes of the conditions concerned in its spread would form the best groundwork for an intelligent study of the remedial measures to be recommended.

At the outset the Committee was confronted by the fact that there were no statistics regarding the prevalence of venereal diseases in this city. The existence of this class of diseases has always been ignored by the sanitary authorities and the amount of venereal morbidity was purely conjectural. In outlining the plan and scope of the Committee's work it was decided that an investigation should be made of the prevalence of venereal diseases in both private and public practice in this city.

With this view the following circular letter was drafted and a copy sent to each of the 4,750 physicians resident in Greater New York.

NEW YORK, May 1st, 1901.

DEAR DOCTOR:

The Committee appointed by the Medical Society of the County of New York for the Study of Measures for the Prophylaxis of Venereal Diseases deems it important to ascertain the amount of venereal morbidity in this city.

As a large number of the cases of venereal disease occurring in our civil population are treated by physicians in private practice, the Committee would ask the coöperation of the entire medical profession in securing statistics bearing upon this subject.

As this information is sought for solely in the interest of the public health, and does not in any way violate professional secrecy, the Committee trusts that you will answer promptly the appended series of questions and forward to the Secretary.

I. The number of cases of venereal disease occurring in your private practice during the past year.

1. Number of cases of Gonorrhea, ...
2. Number of cases of Syphilis, ...

It is also desirable to obtain, where practicable, detailed statistics as to:

3. Cases of Gonorrhea occurring in
   - a. Men, ...
   - b. Women, with pelvic complications, ...
   - c. Children, Ophthalmia, ...
   - c. Children, Vulvo-vaginitis, ...

   Total, ...

4. Cases of Syphilis occurring in . .
   - a. Men, ...
   - b. Women, ...
   - c. Children, Acquired, ...
   - c. Children, Hereditary, ...

   Total, ...

5. Also as to the origin of the Infection — whether from . . . . .
   - a. Public prostitutes, ...
   - b. Clandestine prostitutes, ...
   - c. Marital infection, ...
   - d. Hereditary infection, ...
   - e. Extragenital infection, ...
   - f. Unknown source, ...

   Total, ...

The Committee is desirous of gaining the fullest possible information relative to the prevalence of *syphilis insontium,* of gonococcic infection in married life, and of venereal diseases occurring in children.

II. Judging from the results of your observation, are venereal diseases on the increase in this city?

III. What measures, in your opinion, are best adapted to limit or prevent the dissemination of venereal diseases in this city?

A circular letter was also handed to the superintendents of various dispensaries and public institutions in New York City in which this class of cases is received by the representative of the Committee, asking permission to inspect their records.

To the circular letter sent to the members of the medical profession relating to the statistics of private practice 886 replies were received—nearly 20 per cent. While it was hoped that the response would be more general, this proportion was not a distinct disappointment, as the Committee was fully aware that, in all attempts to gather mass statistics concerning any disease or class of diseases, a large proportion of physicians to whom such inquiries are addressed fail to reply, either from indifference to the particular subject of inquiry, from indisposition to take the trouble to make the necessary tabulation of statistics or from lack of interest or sympathy with the objects of the investigation.

Of the 886 replies, a few were flippant in tone, but the remainder were serious, well considered, and evidently prompted by a recognition of the importance of the Committee's work and in a spirit of cordial coöperation.

Two hundred and eight of the 886 replies contained no statistics, some on the ground that the writers kept no records of their cases, others that it would involve too much trouble to go over their books for an entire year. Many of the eye, ear and throat specialists, gynecologists, neurologists,

etc., admitted that they treated a large number of venereal cases, but it was usually for complications, or late manifestations which were recorded under other titles, and that it would require too much work to identify and classify them.

It is but proper to say that most of these gentlemen, although declining to send their statistics, manifested sufficient interest in the objects of the Committee's inquiry to give their views in answer to Question III., as to the best measures to prevent the dissemination of venereal diseases in this city.

The statistics of some of the reporters were excluded on account of their indefiniteness—thus a number stated that they treated, roughly speaking, from 50 to 100, or, as in one reply, from 200 to 300 cases of venereal diseases the past year—none of these was included.

It will thus be seen that 678 physicians, *or about one in seven* of those to whom the circular was addressed, forwarded statistics of venereal disease occurring in private practice. The total number of cases reported by these 678 physicians, which are duly tabulated and preserved in a permanent form for reference, is 23,196—15,969 cases of gonorrhea and 7,200 cases of syphilis. It is to be understood that no cases of chancroid are included. While the frequency of chancroid is variable, being less in private than in public practice, the statistics of all authors in all countries estimate it from 9 to 35 per cent. of the total of venereal morbidity. Neither do these figures include the large number of the sequelæ of gonorrhea, pelvic complications excepted—strictures, etc., and a vast deal of morbidity which is distinctly and directly of venereal origin.

Taking this aggregate of 23,196 cases reported by 678 physicians, it would seem fair to assume that an equally large proportion of cases occurred in the practice of those who sent no report, and upon this basis of calculation there would be a total of 162,372 cases of gonorrhea and syphilis treated during the past year in private practice in this city.

Now it may be claimed, and with perfect propriety, that as many patients go from one physician to another, they may figure more than once in the statistics, but, abstraction made of these cases, the Committee believes that the aggregate of venereal morbidity in private practice in this city is much below rather than above the total here indicated. When we take into account the large number of venereals who are treated by advertising empirics, by druggists, and by secret nostrums, and the very large contingent who are not treated at all or use prescriptions given them by friends, the above figures would be easily swollen much beyond this aggregate.

The testimony of many European physicians is that from 25 to 50 per cent. of all venereal cases are treated by charlatans. In this country it is not possible to make an accurate estimate, but it is evident that the number is large. The advertising quacks in this city could not keep up expensive offices, put costly advertisements in the daily papers, print and distribute their private literature unless they derived a large revenue from this source. Again, the business of certain drug-stores is another evidence of the extent of this irregular practice. In addition to the secret nostrums, the "sure cures," the "blood purifiers" which are found upon their shelves, many druggists cauterize sores and put up injections, pills, etc., without the advice or authorization of a physician. It is not intended to assert that all druggists engage in this business, but it is well known that many of the smaller drug-stores in various parts of the city owe their chief source of revenue to this class of practice.

Upon analyzing these statistics farther it is found that under gonorrhea are grouped 12,956 men and 1,941 women. This preponderance of males, which might be misleading, is explained by the fact that many reporters gave in their returns so many cases of gonorrhea, so many cases of syphilis, without indicating the sex of the individual. In tabulating the statistics all such cases were placed in the tabular column of gonorrhea in men.

Among the 1,941 cases of gonorrhea in women there are 724 with pelvic complications—nearly 40 per cent.

Among children there are 265 with purulent ophthalmia; 218 with vulvo-vaginitis; 5 with urethritis.

In the group of syphilis there are 1,657 cases of syphilis in women, 61 children with acquired syphilis (evidently due to contagion in family life), and 468 children with hereditary syphilis. This latter number is all the more significant when it is remembered that from 80 to 86 per cent. of all syphilitic pregnancies terminate fatally, for each surviving child would represent 5 deaths from syphilis.

As to the origin of the infections, 8,053 were attributed to public and 3,915 to clandestine prostitutes. In explanation of this marked discrepancy as compared with foreign statistics, it may be said that the line of distinction between the two classes is not sharply drawn in this country. Abroad only those subjected to registration, and therefore licensed, are termed public prostitutes; all the others are classed as clandestine

There are reported 988 cases of marital infection (presumably, as is the rule, from husband to wife). The returns do not indicate whether these marital infections are of syphilis alone, or embrace both syphilis and gonorrhea. If the former, they would show that of 1,657 syphilitic women, nearly 60 per cent. have received syphilis from their husbands. If they refer to both (gonorrhea and syphilis), they would indicate that nearly 30 per cent. of all venereal infections occurring in women in private practice in this city are communicated by the husbands. It is but proper to say that, if the Committee's basis of calculation is regarded as legitimate, all the figures just given should be multiplied by seven, in order to express their full significance.

There are many other interesting deductions

from these statistics which must be passed over from lack of space.

Of the 45 dispensaries and charitable institutions in Manhattan visited by the representatives of the Committee 9 declined permission to inspect their records, or refused to give the information sought for on the ground that they did not receive venereal cases. Of the 37 in which permission was given to inspect the books, or the desired information was furnished by the superintendent or house surgeon, there were collected records of 14,649 cases of gonorrhea and 7,607 cases of syphilis, a total of 22,256 treated during the year.

There were 9,452 cases which were grouped under venereal diseases, but in which the records did not indicate a distinction between gonorrhea and syphilis, swelling the list to 31,708. In addition there were found upon the records of the dispensaries 3,907 cases of chancroid, 898 cases of epididymitis and orchitis, 332 cases of cystitis, 414 cases of bubo, 261 cases of venereal warts, 172 cases of balanitis and phimosis, 523 cases of ophthalmia, 142 of ophthalmia neonatorum, 19 of vulvovaginitis in children, 195 of hereditary syphilis; 30 of the cases were caused by extragenital infection. This by no means represents the amount of venereal disease treated in our public institutions. Although gonorrhea and syphilis are ostensibly not treated in the general hospitals of this city, we find records of cases in the few investigated—many thousands altogether—in which the sequelæ of gonorrhea and the late systemic manifestations of syphilis are received and treated, but entered under names which are not recognized by the laity as indicating a venereal origin. Thus in one of the eye hospitals there were 136 cases classed as purulent ophthalmia, in all of which the gonococcus had been identified by bacteriological examination as the pathogenetic factor. In the same institution there were 38 cases of interstitial keratitis, indubitably of syphilitic origin, but not indicated in the record. It would seem that, in the society of diseases, venereal diseases represent the criminal classes—they are disreputable—they have a bad character and, like most criminals, when they consort with the respectable element they masquerade under an alias, so that in a public hospital it has been ordained that they appear not under their true names, but disguised under a variety of aliases which do not betray their venereal origin.

The annual reports of a few of our general hospital record 371 cases of salpingitis, 1,762 of endometritis, 335 of pyosalpinx, 45 of salpingo-ovaritis, 48 of vulvovaginal abscess, 169 of vaginitis, 651 of stricture, 173 of gonorrheal rheumatism. Altogether there were collected records of 9,731 cases, including many cases in the hospitals under titles indicating their venereal origin, making a total of 41,439. The records of the hospitals also abound with cases of locomotor ataxia, rickets, cerebral and spinal accidents, monoplegias, hemiplegias, general paralysis, epilepsy and various nervous affections in which syphilis is a common etiological factor.

It would seem a strange perversion of the proper purposes of charitable institutions that a patient is debarred entrance into our general hospitals when the disease is acute and a source of danger to others, but he is readily admitted when suffering from the remote effects of the disease which might have been prevented by prompt treatment.

Practically the hospitals proclaim to this class of patients, "We cannot receive you when your disease is acute and curable, but when your gonorrhea has developed into stricture, salpingitis, peritonitis, or when your syphilis has affected important central organs, the brain, the spine, the organs of special sense, you may be received, but your disease shall be baptized under another name which does not offend the refined susceptibilities of our patrons."

The Committee must censure the attitude of the governing boards of our hospitals in excluding all mention of venereal diseases from their reports, as if it were a shame and a reproach. While it may be true that a respectable syphilis does not exist, they give the public the impression that it is almost as disgraceful to treat syphilis as to contract it.

It is to be regretted that these statistics could not have been more definite—giving in all cases the age, the stage of the disease or other important particulars, but the imperfect methods of recording cases in many institutions render this impossible.

While it is no part of the Committee's province to discuss the system or rather lack of system in keeping records which was disclosed by an examination of the books of many of our public institutions, yet we feel that in the interest of scientific research a uniform nomenclature of venereal diseases should be adopted and a more orderly method should be introduced in keeping records.

The most obvious defects noted were, in the first place, an omission of the diagnosis, in some institutions amounting to 20 to 100 per cent. and the lack of uniformity in the terms used to designate the diseases—a veritable nosological anarchy. Thus, syphilis was variously designated as chancre, primary lesion, initial lesion, hard sore, X., XX., and XXX., (S.), lues, s. pox, "specific," spec., sp.; gonorrhea as clap, sp. gon., with nipper, blenorrhagia, drop, etc. In some records there were private marks to designate the disease known only to the physician in charge. All indications as to the stage of the disease, of syphilis, whether secondary or tertiary; of gonorrhea, whether acute or chronic, the number of the attacks, complications and other important particulars were absent. The adoption of a uniform nomenclature of venereal diseases should be urged upon the officers of all public institutions in which these cases are treated.

It is hoped that the very defects which the statistics in this report discloses—defects which are

inseparable from the confusing nomenclature employed and the imperfect methods of keeping records—will lead to a reform in this matter.

Much credit is due the representative of this Committee, Dr. A. D. Mewborn, for the painstaking care with which the records of the public institutions were investigated and the thoroughly conscientious manner in which he endeavored to arrive at accurate results. That there was no disposition to swell the total it may be observed that, while the official records of the Bellevue Out-Patient Department showed 7,300 cases of venereal diseases treated in the Genito-Urinary Department, only 5,872 appear in this record. The Vanderbilt Clinic records 2,938 cases of venereal diseases treated in the venereal clinic, but only 2,263 are included in this report. Instances in which the diagnosis was wanting, as was not infrequently the case, were not included in this report.

It will be observed that these statistics were confined to certain institutions in the borough of Manhattan. None of the island institutions, the Penitentiary, Workhouse, Almshouse, House of Refuge, and many of the public hospitals were not visited. The institutions in Brooklyn and other boroughs were not investigated.

The only available basis for a comparative estimate of venereal morbidity in the other boroughs appeared to be the mortality statistics of all the public institutions of Greater New York. The deaths for 1899 in the public institutions of the borough of Manhattan were 10,157. The deaths in the institutions of all the other boroughs were 5,400, a little over one-half. Applying this basis of calculation, the total number of cases of venereal diseases treated in the institutions in Greater New York would foot up to a total of 62,157 cases; this, with the cases treated in private practice, would make a grand total of about 225,000 in both private and public practice.

This total the Committee regards as rather under than above the actuality. The figures do not, of course, represent the sum total of venereal morbidity, but only the number of cases actually treated during the year. There is no class of diseases so serious in their direct and ultimate effects upon the health of the individual, which are so apt to remain untreated. One cause is the ignorance of their significance on the part of patients, another is the feeling of shame and fear of detection on account of the publicity inseparable from the conditions under which dispensary treatment is given.

This estimate of the fruits of prostitution in New York City takes no cognizance of its incidence among the strangers within our gates. Among the million or more of the floating population of this city—strangers who come for business or pleasure—it is well known that many are worshipers at the shrine of Venus and carry with them to their homes sad souvenirs of their sojourn in the metropolis. In this rich harvest field of infection they often reap more than they sow.[1]

[1] These figures do not include statistics of venereal diseases among sailors in this city, some of whom bring the infection from foreign ports, but many more contract the disease in the dives and dance houses frequented by sailors along the water-front and in the lower parts of this city. The attending physician of the Merchants' Marine Hospital Service and Dispensary states that no fewer than 18,000 cases of gonorrhea and syphilis were inspected and treated during the past year among the crews of the steamships carrying no passengers. He states further, "If we add to this cases occurring on board passenger ships and sailing vessels, the total will be from 25,000 to 30,000 annually."

Whatever may be the sum total of venereal morbidity in this city, enough statistical evidence has been adduced to show that there exists in our midst a vast amount of contagious disease which constitutes a grave danger to the public health and which is absolutely ignored by our sanitary authorities. *Officially,* venereal diseases do not exist in New York City.

Mortality of Venereal Diseases.

Let us compare for a moment this sum of morbidity with that of the contagious diseases which do come under the official cognizance of the Board of Health. To take the past year, 1900, when the morbidity of contagious diseases was unusually heavy, the records show that of measles there were 12,530 cases, 816 deaths; diphtheria, 11,001 cases, 1,920 deaths; scarlet fever, 7,387 cases, 465 deaths; chicken-pox, 1,251 cases, 1 death; smallpox, 99 cases, 12 deaths; tuberculosis, 8,877 cases, 8,154 deaths.

The above figures may be accepted as an approximately accurate census of contagious disease, with the exception, perhaps, of tuberculosis. Against these we have a venereal morbidity of 225,000 cases.

Now, as regards the mortality from venereal diseases, a matter which properly comes within the scope of the Committee's inquiry, the vital statistics record 177 deaths from syphilis. The Board of Health officials readily admit that this number affords no correct indication of the mortality from this disease. From a regard for the feelings of relatives and an indisposition to brand the patient's memory with the stigma of a compromising disease, deaths from syphilis are concealed under various causes—in the adult scrofula, compression of the brain, and other innocent titles; in children, marasmus, infantile debility, convulsions, etc., in but a fraction of the cases is the real disease mentioned. But if we consult the mortuary records we shall find that syphilis is buried under a variety of names. In many of the 1,179 cases of premature birth, in 2,136 deaths recorded as due to marasmus, and in the 28 deaths from hydrocephalus, etc., syphilis was doubtless a casual factor. In many of the 5,590 deaths from diseases of the nervous system, such as 50 deaths from locomotor ataxia, 341 from general paresis, 875 from softening of the brain, 232 from hemiplegia, 96 from paraplegia, 83 from aneurism and diseases of other important organs, syphilis doubtless entered as an etiological factor. The records of the Randall's Island Nursery Hospital show that 8 per cent. of the total deaths from all causes in the institution are due to hereditary syphilis.

Gonorrhea is not mentioned as a cause of death, but we find in the group of "urinary diseases"

and in diseases of the "organs of generation" a large number of deaths in some of which gonorrhea might well be considered as the remote cause; thus there are recorded 141 deaths from ovarian disease, 137 from diseases of the uterus and vagina, and 27 from pelvic abscess.

While the mortality bill of venereal diseases is indefinite, it is doubtless much larger than is generally supposed.

We may well ask why certain infectious diseases are elevated to the dignity of a danger to the public health and every effort made to prevent their spread, while another class of diseases, compared with which the morbidity of the former is but a molehill to a mountain, is completely ignored. To take for example smallpox, of which in the year 1899 there were 18 cases and 11 deaths, and in 1900 99 cases and 12 deaths. All the energies of the Health Department, with an expensive equipment, a large corps of public vaccinators were employed in preventing its spread—while the great pox was allowed to feed and batten upon the community unchecked and unnoticed.

To Question II. in the circular letter issued by the Committee, "Judging from the results of your observation, are venereal diseases on the increase in this city?" there were 412 replies, 212 affirmative and 200 negative. It is, of course, impossible to answer this question intelligently or definitely, because there are no statistics of the prevalence of these diseases in this city at different epochs to serve as a basis of comparison. The value of the work which this Committee has attempted to inaugurate can be no better illustrated than by the unfortunate absence of such data. Dr. Gross, in his paper on "Syphilis in Its Relation to the Public Health," declares that it would be a matter of deep interest and of the greatest possible value if we could ascertain even approximately the extent of syphilis in our cities and larger towns.

In his history of prostitution, Sanger estimated that there were 9,487 cases of venereal diseases treated in the island institutions, public hospitals and dispensaries of New York and Brooklyn and the "Seaman's Retreat" on Staten Island in the year 1857. His basis of calculation was that there were 3 per cent. of venereal patients treated in the dispensaries and 10 per cent. in the hospitals. These 9,487 cases, he thought, represented only two-thirds of the aggregate, which he places at 14,770. He found that the statistics of the Penitentiary Hospital (now the City Hospital), Almshouse, Workhouse and Penitentiary, showed that of the total number admitted to these several institutions 59½ per cent. were suffering from venereal disease at the time the inquiry was made. The Penitentiary Hospital, he states, was the only public hospital where venereal disease is confessedly treated. It may be interesting to learn that at that period, while "Bellevue Hospital is not professedly available to venereal cases, yet the Medical Board of that institution estimates that not far from 10 per cent. of the inmates are admitted for affections which have their origin remotely in venereal disease."

Basing his estimate upon the assumption that the number of cases of venereal disease treated in private practice quadruples the number treated in public institutions, Sanger concluded that in the year 1857 there were 74,000 cases treated in New York. At that time the population of the city was about 700,000. In 1874 Dr. Sturgis estimated "that out of a population of 942,292, 50,450 were suffering from syphilis in New York City." In an appendix to Dr. Sanger's book, 1892, it was estimated that 100,000 persons out of a population of 1,800,000 had syphilis. The population of Greater New York at the present time is about 3,560,000; assuming that the rate of increase of venereal disease has kept pace with the growth of the population, there would be on this basis of calculation nearly 200,000 syphilitics in this city. All of these estimates are, of course, purely conjectural, without any statistical basis.

PROPHYLACTIC MEASURES.

Regulation.

To Question III., "What measures in your opinion are best adapted to limit or prevent the dissemination of venereal diseases in this city," there were 1,065 recommendations, some advocating more than one measure. The onerous duty of analyzing this mass of material devolved upon the Secretary, Dr. Weiss, and the thanks of the Committee are due him for his work in classifying these answers for tabulation under appropriate headings.

As the Committee has asked for an expression of views upon this most important question, it is proper and fitting that these recommendations should be duly considered.

Three hundred and forty of these may be grouped together as advocating the same radical measure—regulation.

In discussing the value of remedial measures for the prophylaxis of venereal diseases it would not be the part of wisdom to confine ourselves to the meager statistics collected by this investigation which do not bear directly upon the subject. We should take a broader and more general survey of the question and utilize the results of the experience and observation of foreign students upon the practical workings of this system in countries where it has been tried, as a basis for conclusions.

The system of regulation in France serves as the type of that employed in other countries and its main features may be thus briefly summarized. It represents an association or combination of effort on the part of the administration authorities and the medical profession with a view to render the practice of prostitution less dangerous to the public health by the elimination of sources of contagion in women who are engaged in it. A special corps of police is employed, every woman in the streets suspected of prostitution is arrested, her name is inscribed on

a special register and she is given a card which is an authorization to exercise her trade under certain conditions; the most important obligation is to report at stated intervals for medical examination. When found diseased she is sent to a special hospital and detained until her contagious accidents are cured. This system, it will be seen, rests upon the tripod of police force, medical examination and hospital isolation—the hygienic feature is the medical examination.

The success of the system depends upon two factors, the activity and vigilance of the police in bringing women under supervision and the thoroughness of the examination in detecting sources of disease.

As regulation has been employed in France for over half a century, and in other European countries for a longer or shorter period, there has been ample opportunity to test its value in reducing venereal morbidity.

Without presenting an analysis of the mass of statistical evidence accumulated, a calm and impartial study of the practical results of regulation would seem to demonstrate that it does prevent a certain amount of infection in men. The much smaller proportion of infections which can be traced to regulated prostitutes, and the much larger percentage of venereal disease in women not regulated, are evidences of its value.

It requires no prejudice in its favor to concede that the detection and enforced isolation of so many sources of infection must have a material influence in limiting the dissemination of venereal disease. For example, the statistics of Commenge show that of the 15,095 syphilitic women sent to the St. Lazare Hospital during a period of twenty years, the average detention was thirty days, which gives a total of 452,850 days in which they were prevented from all possibility of transmitting their disease.

Further consideration of this system might be dismissed on the ground that whatever may be its value public opinion forbids its introduction in this country. Sentimental objections should not, however, be allowed too much weight in the discussion of purely sanitary schemes. It is the high mission of the medical profession to educate and direct public opinion in all sanitary matters. As to the practical objection that the organization of our public hospitals is such that one most essential condition of this sanitary scheme is wanting, viz., sufficient provision for the isolation of a large number of venereal cases, it may be said that increased hospital facilities could doubtless be obtained. But there are other and more weighty objections to regulation which may be briefly referred to. The fatal defect of this system is to consider public or professional prostitutes the almost exclusive sources of contagion, when as a matter of fact they constitute only a small minority. It is and always will be defective and incomplete in its operation because only a small proportion of prostitutes can be subjected to its provisions. There is an invincible repugnance on the part of women to be labeled with a number, compelled to be inspected as articles of merchandise and forcibly detained in a hospital. Not 10 per cent. of the public prostitutes can by any police intervention be collected, and of these about one-fifth annually disappear from observation and become clandestine prostitutes. Regulation cannot be effectively applied against the large body of private or clandestine prostitutes, it cannot reach the great mass of masculine spreaders of contagion.

Another defect is that the medical examinations conducted once a week or ten days are insufficient to promptly detect sources of contagion. New infections of the women may be manifest the day after the weekly examination has been completed and in the intervals between visits every comer may be contaminated.

Again the bacteriological examinations demanded by modern science as a test of the existence of gonorrheal disease cannot possibly be made with thoroughness when a large number of women are to be examined within a short time. All specialists recognize the difficulty of detecting the initial lesion in women or of pronouncing positively upon the syphilitic character of certain accidents. Another defect is that the shortness of stay in the hospital, which does not average more than 30 days, is notoriously insufficient especially in disease of prolonged contagious activity and with such frequent recurrences as syphilis. For these and other reasons the Committee does not recommend the Continental system of regulation as a remedial measure; while it has the incontestable advantage of hygienizing a limited number of public women, the evidence is by no means clear and conclusive that it materially diminishes the sum total of venereal diseases in countries where it has been most perfected and employed It has so many countervailing disadvantages, it is vulnerable from so many points of view that the movement for its modification or abolition in many European countries will probably result successfully.

The Committee is fully impressed with the conviction that private prostitution represents the most dangerous phase of the evil both from a sanitary and moral point of view, and that one test of the value of a remedial measure is its influence in disseminating the evil and recruiting the ranks of clandestine prostitutes.

Segregation.

A further analysis of the replies shows that 203 recommend the segregation of prostitutes. In a medical sense segregation means the enforced separation of certain individuals from their fellows and their collection in one locality in a more or less isolated group.

The Committee does not deem it wise at the present time to advise segregation of prostitutes in one specified quarter of the city, with the understanding that in this locality they may be permitted to exercise their vocation without molestation. Public sentiment is extremely sensi-

tive to anything like legal recognition or sanction of this evil, and it is impossible to approach the boundaries of toleration without entering the confines of authorization.

This question possesses a peculiar pertinence at the present time. As an outcome of the work of the Tenement-House Commission, the elimination of prostitutes from the tenements and apartment houses of this city may be accepted as a foregone conclusion. The vigorous enforcement of this law will doubtless result in casting out many hundreds of public women; the question is, what shall be done with the outcasts? While the Committee does not feel charged with the responsibility of suggesting a provision for this class of evil-doers, yet since they are chiefly concerned in the propagation of venereal diseases, their disposition has some bearing upon the objects of this inquiry. From a common sense as well as a humanitarian point of view, it is evident that these unfortunates must be permitted a habitation. They cannot be forced into the river and drowned as 800 of them were at one time under the edict of a French emperor. They cannot be driven forth into the hills and fields, denied food and shelter and left to perish as was done at a later period at Edinburgh. The brutal methods carried out with savage energy which characterized former crusades against these unfortunates are opposed to the spirit of the age in which we live—certainly they find no place in the counsels of enlightened sanitary science. What shall be done with the outcasts is a most perplexing problem, as it touches at many points questions of morality, of law and order as well as personal rights. It will be admitted that in principle prostitution is wrong and that its entire suppression would be the ideal condition; but this ideal is unrealizable. Prostitution is inherent in the human race; it cannot be annihilated, it is a necessary evil in our social system. We are confronted with the fact that the prostitutes, like the poor, we shall always have with us. In dealing with this evil, speculative arguments, based upon an abstract principle which involves the perfectibility of the human race, should yield to the doctrine of expediency. The most feasible plan appears to be to compel all prostitutes to inhabit houses by themselves. Immoral women should not be allowed to dwell in the same house with moral families. This domiciliary separation should be absolute and complete. To accomplish this result no new legislation relating to prostitution *per se* is necessary, but rather a relaxation of the law applying to the existence of disorderly houses. By simply abandoning this evil to its own evolutionary mode, which is always toward aggregation, unless scattered by the force of repressive measures, it would naturally drift into certain streets or quarters following, of course, the line of least resistance on the part of property-owners. Prostitutes are essentially gregarious and the natural history of prostitution shows that, like other trades, it has a tendency to aggregation, obeying the same commercial law which determines the localization of certain lines of business in certain districts or quarters. The colonization of certain nationalities in distinct quarters, such as the Chinese, the negro quarters, etc., is another evidence of this tendency to aggregation. The Committee is fully persuaded that the interest of public health, as well as of public morals and public decency, can be best subserved by the localization of this evil in certain streets or retired quarters of the city where it will not obtrude itself upon observation, where it must be sought for to be found and where it can most effectively be brought under control. The existing regulations which apply to solicitation in the streets, provocation to debauch through open windows or indecent exposure, and all offenses against public order and decency should be strictly enforced. All red light or other indications of the nature of such houses and all external and visible signs of prostitution should be rigorously prohibited. This arrangement would take out of the hands of the police the arbitrary power of levying tribute, which has proven so demoralizing to the force. The function of the police would be limited to the preservation of order and the repression of all scandalous behavior in the streets.

Regulation by the Board of Health.

Among measures suggested, regulation by the Board of Health is recommended by 152 physicians, report of cases to health department by 15, and isolation by quite a number of others.

It will be admitted that the control of venereal disease, as of other contagious diseases, naturally and legitimately comes within the province of our sanitary authorities who are the accredited representatives of the State in all matters relating to the protection of the public health. Now, venereal diseases, like other contagious diseases, are already subject to the control of the Board of Health; this Board, however, does not officially recognize the existence of these diseases or employ any sanitary measures for their control. The first essential is to awaken the health authorities to a sense of their responsibility.

Sanitary control is not necessarily limited to the measures employed in the case of acute infectious diseases, *viz.*, compulsory notification and enforced isolation during the entire contagious period. These routine methods by no means represent the sole resources of sanitary science. Isolation contemplates brevity, and in dealing with chronic infectious diseases like syphilis or tuberculosis would be impracticable. The ordinary methods of sanitary procedure should be adapted to the peculiarities of the particular disease, its nature, its mode of contagion, and the conditions under which it is spread.

When the health authorities proposed to bring tuberculosis within the sphere of sanitary supervision it was certainly not with the view of isolating the great army of consumptives; the spread of tuberculosis has been combated by other means. A campaign of education was instituted,

the public was taught that it was a communicable disease, instructed as to the agencies by which it is propagated in family life, of the risk consumption carries to others and the best means of avoiding these risks. A bacteriological laboratory was created to examine the sputum in suspected cases, so that the disease might be detected in its earliest stage when it was amenable to cure. Increased facilities for its treatment were also provided. The work done by the Health Board of New York in their efforts to stamp out the seeds of consumption met with the most appreciative recognition at the last meeting of the Tuberculosis Congress in London.

The Health Department of this city is armed with full authority to enforce all measures which in its judgment are deemed essential to the preservation of the health of the community. The public is willing to submit to measures, if ordered by the Board of Health, which might be considered an infringement upon private and individual rights, while it would resent the imposition of similar restrictive measures by social reformers or others. There may be a difference of opinion as to the moral aspects of the social evil and the propriety of restrictive measures in so far as it constitutes an offence against morality, but there can be no strenuous opposition to a sanitary movement which has for its sole object the repression of disease.

This Committee is not prepared to formulate a system of control complete in all its details and embodying the methods to be employed in combating the spread of venereal disease. It will be conceded that the problem is most difficult, but its solution should be undertaken and the difficulties met as they arise. While it is obvious that placing venereal disease under the ban of notifiable diseases would not be judicious or practicable, there could be no objection, however, to the registration of all cases of venereal disease, the physician reporting the nature of the disease, the origin of the infection whenever practicable, without giving the name and address of the patient, and thus respecting professional secrecy. All public institutions, hospitals and dispensaries should be required to report all cases of disease of venereal origin. The establishment of a distinct bureau under the Division of Contagious Diseases, with a special corps of sanitary inspectors, chosen for proficiency in the knowledge of this class of diseases, with a bacteriological laboratory for the examination of diseased secretions, and other administrative details, would be matters for further consideration.

The keepers of disorderly houses should be required to report all cases of disease occurring among the inmates of their establishment under penalty of a heavy fine, and such diseased women should be retired from circulation until their contagious accidents are cured. To meet this exigency there should be increased hospital facilities for the reception and treatment of venereal diseases.

From a hygienic standpoint prostitution should be loked upon as a sanitary sin and supervised like any other trade which menaces the public health by the disease it engenders.

Penalizing the Transmission of Syphilis.

The question of penalizing the transmission of syphilis, as recommended in many of the replies, is viewed differently by members of the Committee. The difficulty of positively identifying the origin of the infection in a disease of such prolonged incubation as syphilis, the impossibility of determining the source of the disease when promiscuous intercourse has been indulged in are complicating elements, yet there are many cases in which the penalty could be enforced without a miscarriage of justice. If such a law is deemed advisable it should be drafted by those skilled in the framing of legislative enactments with due regard to the nature of the disease and eliminating all possibilities of blackmail. It may be said that if public sentiment sustains the Board of Health in imposing a heavy fine for spitting on the floor of cars and public conveyances, with the remote possibility of the sputum containing tuberculous germs and with the still more remote possibility of its proving a source of infection to others, surely it would sustain a law penalizing the transmission of a serious disease. The mere existence of such a law upon our statute books would do much to educate the conscience of the public to the idea that the transmission of syphilis is not a venial offense—that it is a crime against society to recklessly scatter the seeds of a loathsome disease. Responsibility for the spread of syphilis should be narrowed down to the question of individual accountability. Such a law would have its special application in the protection of minors.

Safeguarding Minors.

The Committee is convinced that no successful preventive measures against the dissemination of venereal diseases can be instituted which do not take into consideration the necessity of throwing special safeguards around minors. Statistical evidence proves that the existence of venereal morbidity falls most heavily in the latter half of the second decade of life. The large proportion of infections occur from the sixteenth to the twentieth year in women, and from the eighteenth to the twenty-third year in men. The statistics of Le Pileur in which the age of contamination in 718 syphilitic women was definitely traced indicates that 62.9 per cent. were infected from the sixteenth to the twentieth year, 6.3 per cent. from the twelfth to the fifteenth year. These statistics show that the débutantes on the stage of vice, the young and the immature, are the chief victims as well as the chief sources of contagion to others. All experience shows that the large proportion of infections may be traced to young prostitutes; old prostitutes are less dangerous in disseminating disease, as many are immunized by time so that they cannot transmit syphilis. Besides they are less attractive and therefore less

sought after. In this country we have no statistics showing the age of contamination, but there are abundant indications of the precociousness of the youth of this city in acquiring venereal disease. All physicians who have charge of venereal clinics have been impressed with evidences of the growth of juvenile vice in this city. The statistics of Dr. Graenelli of the Good Samaritan Dispensary show an increase of from 8 to 15 per cent. of venereal disease in males below eighteen years of age within the past three years.

With a view to suppressing the prostitution of minors a law raising the age of consent would be an additional safeguard. Prostitutes of minor age when apprehended should be sent to a protectory or reformatory and detained until the age of twenty-one.

No less important is the rigid enforcement of the law against proxenetism. The procurer must be regarded as a most active agent in the dissemination of venereal disease. The business of procuring young and innocent girls for introduction into a life of debauch where they are almost inevitably doomed to contract and spread venereal disease is a crime which has its hygienic as well as its moral aspects. The law should provide the most rigorous enactments to fittingly punish the panderers to this vile trade.

Education and Treatment.

Among the miscellaneous measures proposed the most important may be grouped under the head of education and treatment with enlargement of hospital and dispensary facilities. In the opinion of the Committee, education and treatment comprise the most promising remedial measures which are immediately available and which all interested in this hygienic work, the repression and control of the effects of prostitution, will approve. They take cognizance of the rôle played by men in the progagation of venereal disease, as they apply to both men and women.

Education should begin in the ranks of the profession. In the organization of the system of instruction in many of our medical schools, the importance of a knowledge of this class of diseases is not recognized. The study of venerology should be made an integral and essential part of medical education, and the practical as well as theoretical knowledge of this disease should be made an indispensable requisite for graduation in medicine. The importance of deciding intelligently upon the conditions of admissibility to marriage of venereal patients, for example, cannot be overestimated. The dangers introduced into the family life by the premature marriage of a syphilitic man, or of a man suffering from a latent urethritis, to which the sanction of the physician may have been given, involve a heavy responsibility upon the medical profession. How many thousands of young men with an uncured gonorrhea every year enter into the state of matrimony, it may be with the sanction of the physician who has made perhaps a superficial examination, and infected their wives, resulting in pyosalpingitis or peritonitis and ending in chronic invalidism and hopeless sterility. Speaking of this class of cases, Dr. T. Gaillard Thomas says: "Specific vaginitis transmitted to virtuous women by men who are utterly ignorant of the fact that the sins of their youthful days are at this late period bringing them to judgment, is one of the most frequent, most active and most direful of all the causes of serious pelvic trouble in women—one which meets the gynecologist at every turn and one which commonly proves incurable except by the dangerous procedure of celiotomy." . . . "A marital quarantine is as necessary to-day in social life as a national quarantine is for contagious diseases in general."

Those charged with the education of young men in high schools and colleges should instruct them as to the dangers of promiscuous intercourse. Every young man should be impressed with the idea that venereal disease is almost invariably a concomitant of licentious living, involving consequences which may seriously compromise his health and like an avenging nemesis come to smite him, it may be, years after he has forgotten his youthful follies. This knowledge should be imparted with tact, discretion and good sense. The physician would prove a most valuable auxiliary in this prophylactic education. Especially should he correct the traditional belief so universally accepted by the laity that gonorrhea is a trivial affair, easily cured and leaving no permanent results. He should also combat the dangerous theory that sexual indulgence is necessary to health. As Sir Wm. Gowers has said, "No man was ever worse for continence or better for incontinence." All medical men as well as moralists who have studied this question look upon the promotion of masculine chastity as among the most powerful means of checking prostitution. Prostitution is largely a matter of supply and demand and all conditions which diminish the demand for prostitutes on the part of men diminish the supply.

One of the most effective means at our command for preventing the dissemination of venereal disease is to sterilize promptly the sources of contagion by treatment and thus shorten the period of their contagious activity. The number of infections that may be traced to a single source is often most remarkable. Every venereal patient should be looked upon as a possible focus for the spread of contagion, and the cardinal consideration should always be kept in view that the protection of others from risk of infection is quite as important as the cure of the disease. The patient should be fully instructed as to the nature of his disease, the duration of its contagious activity, the manifold means by which contagion may be effected, and the moral responsibility involved in exposing others to contagion. Every source of contagion suppressed by treatment, every infection avoided by enlightenment of the patient represents a distinct gain in the reduction of venereal morbidity. Education along these lines should be generalized as much as possible

among the public, especially among the poor and ignorant. In order to prevent blindness from neglected ophthalmia neonatorum among the poor, midwives should be instructed as to the cause, symptoms and dangers of this affection and the necessity for prompt and skilful medical treatment.

The Committee has already referred to the ban of ostracism which dishonors this class of diseases in their exclusion from general hospitals in this city, and would recommend that every general hospital receiving State or municipal assistance should be required to open its doors to this class of diseases. Fortunately, hospital care is not required in the large proportion of venereal diseases. Most of them are ambulatory cases, and dispensary treatment which does not interfere with their employment and with their wage-earning capacity is best adapted to their requirements. While only a limited number of dispensaries in this city have a venereal service, it has been found that patients are treated in a large number of dispensaries which ostensibly do not receive this class of cases. This treatment should be efficient and at the same time available, the attending physicians of the venereal classes should be specialists in this branch of medicine, and the service should be organized and conducted with especial reference to the nature of the disease, that is, they should be conducted with all the privacy possible.

Among the subsidiary measures which are recommended are the absolute prohibition of all advertisements of "infallible cures" by charlatans in the public press and the placing of advertisements of "sure cures" for private diseases near urinals or in public places, also the prohibition of prescribing for venereal diseases by druggists.

In concluding this report it may be said that the closing years of the nineteenth century have been marked by a general awakening of interest in the chronic infectious diseases, tuberculosis and syphilis, and the convocation of international conferences for the discussion and adoption of the sanitary measures best adapted to their repression and control, as exemplified in the Congress for Tuberculosis and the Congress for the Prophylaxis of Syphilis and Venereal Diseases in 1899. It is now generally recognized that the ravages of these chronic infectious diseases are infinitely more destructive to the human race than cholera, smallpox, or the plague, and that their prophylaxis should no longer be neglected.

The object of this Committee's work has been to ascertain, with some approximation to accuracy—the amount of venereal morbidity in this city, to stimulate the interest of the medical profession in this important but neglected class of diseases, and to urge the employment of all the resources of sanitary science to limit or prevent this spread.

It will be seen that no specific "State or municipal legislation for the repression and control of prostitution," as was contemplated in the resolution of the Society creating this Committee, has been recommended, and this from the firm conviction that such repressive measures would prove a failure. Because the source of venereal diseases cannot be extinguished there is no reason why we should shut our eyes to their existence and fold our arms in the helplessness of impotency. By a parity of reasoning it might be contended that because we cannot destroy the causes of acute contagious diseases we should cease to combat their spread.

While the Committee does not indulge in the Utopian idea that the extermination of venereal diseases is likely to prove entirely successful, it is fully persuaded that much may be done to limit their dissemination by intelligent and well-directed sanitary effort.

PRINCE A. MORROW, M. D., *Chairman.*
LUDWIG WEISS, M.D., *Secretary*
GEORGE B. FOWLER, M., D.
President of the Society, Ex-Officio Member of the Committee.
CHARLES W. ALLEN, M.D.
L. DUNCAN BULKLEY, M.D.
HENRY DWIGHT CHAPIN, M.D.
EDWARD D. FISHER, M.D.
S. ADOLPH KNOPF, M.D.

THE MEDICAL SOCIETY OF THE COUNTY OF NEW YORK AND ITS OBJECTS.[1]

BY FRANK VAN FLEET, M.D.

TO-NIGHT, for the ninety-sixth time, the members of this Society meet to inaugurate a new president and to listen to his promises to preside over their deliberations for the coming year and to protect their interests and the interests their Society represents to the best of his ability, honestly, faithfully, and impartially.

Without doubt, each newly-elected president has accepted this trust with a keen appreciation of the responsibilities resting on his shoulders and with a determination so to conduct the duties of his office that, when he shall hand the gavel to his successor, all shall say, "Well done." Such is the feeling of the present incumbent as regards himself. He looks upon the position of president of the Medical Society of the County of New York as one of the most responsible positions a physician, in his capacity as a medical man, can hold. The president of the Medical Society of the State of New York must feel that it is a part of his responsibility to see that each county in the State has a medical society, and that each of these societies is doing its utmost to protect the interests of the profession and of the public health of the county it represents. His duties and responsibilities, therefore, cover a greater area than the president of any one county society, all of whom are subordinate to him. The Medical Society of the County of New York is but one of the societies going to make up the system which has as its head the Medical Society of the

[1] Inaugural Address by the President of the Medical Society of the County of New York, November 25, 1901.

State of New York, and its duty, given it by the Legislature of the State, is to look after and protect the public health of the county whose name it takes.

This county, however, while it is but one of the sixty counties in the State, covering only about eighty square miles,[2] while the State covers fifty-three thousand, seven hundred and nineteen square miles, contains nearly one-fourth of the entire population of the State.[3]

The Medical Society of the County of New York, therefore, while only a part of the State Society, is still so important a part and represents so important a part of the State of New York that the parent body listens with great respect to the voice of our County Society. The president of the Medical Society of the County of New York presides over a body which, while perhaps not more important than the body over which his predecessors, in the early days of the Society, presided, is many times larger. In 1806, when the Medical Society of the County of New York was organized, the city of New York had a population of 80,000[4] and the membership of the Society was about 100; now the membership is nearly 1,700. A closer study of the figures will show us that, while we are larger in actual numbers, we are not larger proportionately. In the early days the membership in the Society was in proportion to the population of the city, as one in eight hundred, while to-day the proportion is about as one in ten hundred and eighty-eight. In the early days of the Society membership was compulsory; the Society was organized by the Legislature for the purpose of "regulating the practice of physic and surgery," and all physicians were directed to associate themselves with the Society, and the Society was authorized to collect a certain sum of money annually from each practising physician to defray the expense of regulating the practice of physic and surgery." To-day membership in this Society is not compulsory, but the doors are open to all reputable practitioners of medicine who are willing to declare their abnegation of sectarian principles and practice. Not that the applicant must declare that he will never resort to any one particular method of practice; that in itself ought to debar a man from membership in any society. It is certainly as illogical for a physician to declare he will not employ a particular system of practice, or a particular remedy or method, as it is for him to say that he will use no other. The Medical Society of the County of New York aims to include in its list of members all reputable practitioners of medicine who are willing to assert that they are not bound to practise any exclusive system. We call ourselves the "Regular" profession because we are the representatives and direct successors of the profession which has existed since the dawn of civilization, and because our practice is broad enough to include all schools, all systems, and all methods of treating disease which offer to humanity the possibility of relieving or curing the ills to which it is heir.

Our Society is in no sense a club, and no member has the right to object to the admission of any reputable physician because the applicant may not be personally acceptable to him. Personal dislikes should have no part in the determination of one's fitness for membership in this Society. In the days when membership in this Society was compulsory there were but one class of practitioners. When Homeopathic and Eclectic practitioners became numerous and powerful enough, the law compelling membership in this Society was repealed, and societies representing these other schools of practice were authorized by law, with privileges identical with those enjoyed by this Society. No clause was inserted in any subsequent law making membership in any society compulsory, but privileges are granted members of three societies, representing the three legal schools of practice, which are not enjoyed by physicians who are not members of these societies.

The medical profession of the State of New York is legally represented by three State medical societies representing the three legal systems of practice in the State, the Regular, the Homeopathic and the Eclectic. It is well to keep this constantly in mind, because there are no other societies or associations which have ever been created by law endowed with the privileges and functions of these three societies. These three organizations stand as the representatives of the medical profession in this State and are so recognized by law. Membership in the society representing the Regular profession, that is, the Medical Society of the State of New York, is determined by the applicant having served as a delegate to the State Society, and to be a delegate it is necessary to be a member of a county society in affiliation with the State Society. It is the privilege of every reputable physician to aspire to any position which a physician, by virtue of his being a physician, can hold. Among these positions is that of being a member of the State Board of Medical Examiners. The members of this examining board representing the Regular profession must be taken from the membership of the Medical Society of the State of New York. If a physician is debarred from membership in a county society he is denied the privilege of being a member of the State Society, and accordingly it is impossible for him to aspire to membership in the State Board of Medical Examiners. Therefore, a physician who desires membership in the representative medical society of the county in which he resides has a legal right to admission if he complies with the legal requirements. The law gives the county societies the

[2] New York City contains 308 square miles. New York County, comprising the Boroughs of Manhattan and The Bronx, contains about 80 square miles: Manhattan 19.65, and The Bronx 60.00.

[3] The population of New York State, according to the census of 1900, was 7,268,012: New York City 3,437,202; New York County 2,050,600. A small portion of The Bronx is in Westchester County, but the population of this small section does not materially affect the deductions drawn.

[4] In 1805 the population of New York City was 75,587; in 1810 it was 96,373, so that in 1806 we estimate it to have been about 80,000. In 1806 the city was situated entirely on Manhattan Island; this portion of the city is now known as the borough of Manhattan. The population of this borough, according to the census of 1900, was 1,850,093.

right to make by-laws for their own government, and a by-law governing admission to membership is one of these. The law says, however, that these by-laws shall not be inconsistent with the laws of the State, and to deny a person the right to become a member of a county society providing he is legally qualified to be a member is to deny that person one of his inalienable rights, guaranteed him by the Constitution. If a physician voluntarily ostracises himself by refusing to become a member of a county society because some of its by-laws may be repugnant to him, that is his fault; he has a legal right to membership, and it would seem as if the proper course for such a person would be to join the society and then endeavor to secure alterations in the by-laws to have them conform to his ideas.

The Medical Society of the County of New York, representing, as it does, the Regular medical profession, should be made as great a factor for the good of the community as it is possible to make it. Its influence will be in proportion to the number and energy of its members. A society with seventeen hundred members, working hand in hand for the uplifting of the profession and the protection of the public health, would exert double the influence if it had double the number of members. A physician can never reach the ideal of professional attainment unless he adds to the ordinary round of professional work something which will benefit his fellow-man. This is an aphorism which will apply to people in all walks of life, but with greater force, possibly, to medical men than to any others.

Artisans, merchants, financiers, and others find fields for doing good, but generally outside the fields in which they labor for their daily bread. The mechanic, who, with his inventions, opens up new fields of industry, provides new positions for his fellow-mechanics. The merchant and financier open up new fields for the investment of surplus funds, increasing wealth and giving greater opportunities to themselves and to those who come after them. The physician, who studies and delves deep into the sources of disease, does not do this in order to increase disease, but on the contrary, to decrease it. If he labors honestly, as most physicians do, his work tends to decrease the opportunities of those who come after him. Every effort he puts forward to decrease disease robs himself or some colleague of their means of livelihood. No physician stops at this, however; in a manner utterly incomprehensible to the average commercial mind, he plods on, putting obstacles in his own path, waging a war of extermination on his allies, destroying his own avenues of wealth, in order that his non-medical fellow-man may have more comfort and happiness. Our calling is distinctly not commercial, and there is none more Christ-like than that of the true physician.

That medicine has a commercial side is possibly true, but the medical man who turns his attention solely or chiefly to the commercial side fails to see the beauty of his profession, fails to realize the responsibilities of his calling, and lives a life which adds nothing to the world he inhabits. The man who enters the ranks of the medical profession, therefore, has a duty in protecting the community which he cannot turn his back upon and be true to himself, and in no way can he fulfil that duty to greater advantage than by becoming a part of the Society which is the recognized representative of his profession, and by his presence, and his voice and efforts, strengthen its hands and aid it in accomplishing the work for which it was established. And so it seems to me that, while there is no law making membership in this Society compulsory, every physician who is eligible is under a moral obligation to become a member, and to do his utmost to increase the Society's membership, and in that way increase its power and usefulness. It seems fitting and proper that your presiding officer should, as briefly as possible, lay before you the objects he hopes, with your aid, to accomplish during the year, and the methods he expects to employ.

We shall endeavor during the coming year (1) to increase the membership of the Society; (2) to protect the community by the enforcement of the medical law; (3) to present papers which will be attractive and instructive, and to encourage discussions which will keep the Society in the front ranks of scientific bodies; (4) to create a friendly feeling between ourselves and forces which are now antagonistic to us, to the end that our sphere of usefulness may be increased and that we may have a united profession.

The first object of the Society during the coming year will be *to increase the membership of the Society*. There are at least four thousand physicians in the County of New York and of these about seventeen hundred are members of this Society. According to the Transactions of the Homeopathic State Society there were 1,256 Homeopathic physicians in this State in 1898 and of this number 326 practised in New York County, being 25 per cent. of the total number practising in the State. In 1899 and 1900 the number of Homeopathic physicians admitted to practice in the State was 105. If 25 per cent. of these physicians came to New York County to practise they would swell the total of Homeopathic practitioners in this county to 352. In this same period of two years there were 37 Eclectic physicians admitted to practice and 1,178 Regular physicians. Of the 1,320 physicians legally admitted to practice in this State in 1899-1900, 89 per cent. were regular practitioners and eligible to membership in county medical societies like ours. If this percentage is correct, and it certainly is for the two years mentioned, it follows that 3,500 of the practitioners of medicine in this county are of the regular school and eligible for membership in this Society. Of course, there are some whose membership is not desired, for various reasons, but if we eliminate these there are still remaining a great many medical men who are desirable who are not members of this or of any medical society.

There are a great many medical men, good, honest and worthy members of the profession, who are not members of medical societies because they do not understand the value of such membership. We all know medical men of this class, and we could secure the membership of some of them if we would take the trouble to point out to them the reasons why they should associate themselves with this representative body.

These reasons are many, but among them we may enumerate, first, that this Society is engaged in uplifting and protecting the profession of which these men are members and to which they owe a certain allegiance. Whatever may be the opinions of non-medical members of the community concerning laws regulating the practice of medicine, there are few professional men so blind that they cannot see the many advantages, both to themselves and to the community, of such regulations, and it is a just cause for pride on the part of the members of this Society to know that the Medical Society of the County of New York played no small part in securing the enactment of the laws creating the present high standard of medical requirements in this State.

A second reason why every medical man should be a member of this Society is that the burden of the enforcement of the medical laws falls on this Society. The State gives certain privileges to members of the medical profession which are not enjoyed by other citizens, and in return the State imposes certain obligations on the profession which no member has the right to shirk. If it is so distasteful to one's inclinations, or for other reasons impossible that one should enter actively into the work of this Society—which stands between the public and incompetent medical practitioners—there is no reason why such a person should not join the Society and at least give moral support to those who are endeavoring to carry on the work of the Society, some of which may be distasteful to them, too.

A third reason for becoming a member of this Society is that such membership is a support in time of trouble. Members of the medical profession are especially liable to the attacks of unscrupulous or misguided people who think they have grievances—suits for malpractice, unjust accusations against a physician's character, and many other troubles which may come to a doctor's lot. No medical man is safe from attacks of this kind, be he ever so honorable, or let his position be as exalted as possible. Membership in this Society may not prevent these attacks, but the member of the representative medical society of the county in which he lives, the associate of men of known respectability and honor, stands a much better chance of receiving justice than the man, who, in a county having four thousand practitioners of medicine, stands alone. The first question which occurs to everybody in connection with such a person is, Why has he not associated himself with the County Medical Society?

These reasons can be multiplied many times. It seems to me that the duty of every member of this Society to see that every medical friend is also a member is second only to the duty of the friend to become a member, and your presiding officer for the coming year takes this opportunity to urge every member to do missionary work among non-members for the sake of the Society, for the sake of the individual, and for the sake of the community at large.

The second object which will engage the attention of the Society during the coming year will be the *enforcement of the medical laws in this County.* This work has been carried on by the Medical Society of the County of New York whenever it has been carried on at all. When the present laws were enacted it was intended that the county medical societies having representation in the three State societies representing the three legal systems of practice in this State should be the organizations authorized to secure the enforcement of the law. The law is worded so that when the section conferring this power is read alone, it appears as if any incorporated medical society of the State had the right to undertake and carry out this work, but when all the sections are read in their regular order the intent of the law, as I have stated it, appears very plain. The Appellate Division of the Supreme Court has decided that this section of the law should be read alone, without, however, giving any reason for such an interpretation. The County of New York would not appeal from this decision, and we could not. Under this decision any incorporated medical society of the State has the right to undertake the work of securing the enforcement of the medical law, and to claim the fines imposed. The only organization beside ours which has undertaken this work up to now is the New York County Medical Association, which has secured three convictions this year. Our Society has been doing this work for so long a time that we have come to be looked upon as the authorized agent for the enforcement of the law. Our counsel acts for the District Attorney's office, and to introduce new societies into the field, with new counsel, will be to introduce confusion. Rival societies conducting prosecutions of violators of the medical laws, each anxious to outdo the others in securing convictions, may result in injustice being done and give the appearance of persecution instead of prosecution, will disgust the courts, thus making convictions of actual offenders more difficult, and will increase the cost. The cost of conducting this work is no small item. Seven years ago it cost this Society one hundred and forty-five dollars to secure a conviction. During the year just closing it cost seventy-nine dollars, and for the seven years it has cost an average of eighty-eight dollars for each conviction. Of course, the whole of this does not fall on the Society, as the fines paid are turned over to us; if we deduct the fines received, the cost to the Society for the past year was twenty-two dollars for each conviction. We maintain, under the supervision of the Board of Censors, a system with a prosecuting attorney at its head for the enforcement of the medical

laws in this county. Complaints of violation of the law are numerous, and in order that no injustice may be done every complaint received is carefully investigated before any definite action is taken. To make these investigations the counsel has in his employ a number of detectives. The cost of this law bureau averages about two hundred and fifty dollars a month. As we have said, this outlay is partly offset by the receipt of the fines imposed on convicted violators, but the excess of expenditures over receipts by the most economical management will average at least fifty dollars a month. As our system has been perfected the cost has been reduced, and we hope soon to reach a stage when the expenditures and receipts will balance. Of course, if we are compelled to divide this work with other organizations, the receipts will be diminished and the net cost to the Society increased.

We have labored under a disadvantage inasmuch as a decision was rendered by one of the Judges of the Supreme Court, twenty years ago, that to constitute a violation of the law governing the practice of medicine it was necessary to give medicine or drugs. Lawyers advised that no suits against violators of the law be brought unless a prescription written by the alleged violator, or medicine given, could be put in evidence. We contended that the practice of medicine was the treating of disease, regardless of the method employed, and during the last session of the Legislature we endeavored to secure an amendment to the law which would make this plain. We failed in this, but we aroused public sentiment to such an extent that one of our city judges put us in the way of securing a conviction in the case of a so-called "astrologer" who treated a patient who had a fistula *in ano,* with electricity. Our counsel worked up this case and, notwithstanding the fact that the defendant moved a dismissal of the case on the ground that no violation of the law had been attempted because no medicines or drugs were used, the defendant was convicted of violating the medical law and paid a fine of two hundred and fifty dollars. The Judges who rendered this decision and imposed the fine were Justices Holbrook, Jerome and Hinsdale. This decision settles the question of what constitutes practising medicine unless the decision is reversed in some other case.

It is a cause for congratulation on the part of the members of this Society that the enactment of the present medical law was secured through the efforts of our system of medical societies, and it is a fitting climax that this Medical Society of the County of New York secured the conviction which demonstrated that this law is broad enough to cover all unregistered practitioners who treat disease, regardless of the method they employ.

The third object which will engage the attention of this Society during the coming year will be the *reading and discussing of scientific papers.* We have succeeded in obtaining the promises of leading members of the profession to read papers and take part in our discussions which will ensure meetings replete in interesting and instructive matter. Each meeting will be devoted to the discussion of some one subject, and members of the profession, not only from our own city, but from other parts of the United States, will be requested to take part. The December meeting will be called the orthopedic meeting. The January meeting will be the gynecological meeting. The February meeting will be the State medicine meeting. The March meeting will be the medico-surgical meeting. The April meeting will be the ophthalmological meeting. The May meeting will be the genito-urinary meeting. Following the summer vacation the September meeting will be the otological meeting. In October will be the annual meeting and no papers will be presented. The November meeting will be the inaugural of the new president.

The Milk Commission of our Society which has done good work will be continued, as directed by the Society, and the Society will be kept informed of the work done.

And now, fellow members of the Medical Society of the County of New York, I approach the consideration of the fourth object which in my judgment we should have in view, with hesitation, not because I am opposed to its consideration, but because of the fear that what I say may be misconstrued and misinterpreted. The necessity for its consideration, however, is so positive that I feel I cannot conscientiously avoid it. This object is *the creation of a friendlier feeling between ourselves and forces which are now antagonistic to us to the end that our sphere of usefulness may be increased and that we may be a thoroughly united profession.*

It is folly to deny that any unfriendly feeling exists between the members of the Society and the Association. That over sixty-seven per cent. have not this feeling may be true; over sixty-seven per cent. of the membership of the Association is made up of members of this Society, and it is difficult to imagine a man having a genuine feeling of antagonism for himself. There are, however, a few who have bitterness enough to disturb the whole profession. Many of the members who pay dues to both organizations do not understand the cause for the existence of both bodies. They join both because of friendship for other members, for social reasons, for business reasons, and so on. I have many warm personal friends who are members of both; indeed, some of my intimate acquaintances are members of the Association and not of the Society.

This division had its origin when the Medical Society of the State of New York modified its by-laws so as to change the code of ethics of the American Medical Association, which had hitherto been the code of the State Society. The State Society finally abrogated all written codes, in which condition it remains to-day. The minority in the State Society, after this body had reaffirmed this action for three years in succes-

sion, retired and organized the New York State Medical Association in order to uphold this code. This code defined what should be the attitude of the members of the profession to each other and of the profession to the public. It also undertook to instruct the public as to how it should treat the profession. It would seem as if it were unnecessary to tell members of the profession, who are supposedly and generally are gentlemen how they should treat each other or how they should treat the public. Members of a learned profession should treat each other as gentlemen, and should assume to the public the attitude of honest men; it ought not to be necessary to have a code to tell us this. The public, on the other hand, while it has a high regard for the medical profession, looks upon the profession as a sort of necessary evil. The public consults the profession when in need of medical advice, and pays for the advice a financial consideration, and that is all it cares for the medical profession.

These items, however, the opponents of the code could have passed over, but the code went farther, and declared that no regular practitioner should meet in consultation any practitioner who held views on therapeutics at variance with his own. This was intolerable, and the State and county societies finally refused to be governed by it. As a consequence the American Medical Association declined to receive delegates from the State and county societies. As we have said the State Association was organized to uphold this code. Men have become members of the Society, thus endorsing the views of the Society, and have then joined the Association and subscribed to the very code their membership in the Society has stamped them as being antagonistic to. Other States, we are told, have refused to accept the principles of the code, and their delegates have been received by the American Medical Association, but the delegates of the Medical Society of the State of New York, the representative of the medical profession in the Empire State, a Society whose honorable career is approaching the century mark, is debarred, because it refuses to subscribe to a code of ethics which is, admittedly, a dead-letter.

This is the history of the past. It has come to us from various unofficial sources that the American Medical Association has been reorganized so that the question of code does not come into its membership. In the absence of official information we cannot be sure that this is true, although it is stated as a fact in order to induce members of our Society to join the Association that there is no difference now on the code question. If this be so, since the New York State Society's delegates were excluded simply because they would not subscribe to the written code, it would seem, now that this is no longer necessary, that the American Medical Association would be glad to receive our delegates. If there be reasonable ground for supposing that our delegates will be received, as representatives of the regular medical society—one of the oldest if not quite the oldest in the Union—I recommend that the State Society be requested by the Medical Society of the County of New York to take some steps looking toward an adjustment of the differences which now exist. It seems to me there is a necessity for the existence of a National body; there are desirable conditions which should be brought about, which cannot be, except through the concerted action of various State medical societies acting through a central body.

We have, for instance, a standard of medical requirements in nearly every State, and yet, although these requirements are similar, the right conferred to practise medicine in one State gives the person possessing it no privileges in another State. Men who have practised medicine in one State, possibly for years, reaching positions of honor and respect which have placed them in the foremost ranks of the medical profession, cannot transfer their positions and possibly achieve greater renown in other States unless they undergo technical examinations which nobody but recent graduates can hope to undergo successfully without considerable preparation. I do not wish it understood that I object to State medical examinations, for I am heartily in sympathy with them; I do think, however, that it is not good to overdo the matter of State examinations. I do not think the standard should be raised too high, and I am inclined to the belief that it has been raised in this State as high as it should be raised. I do not think our standard is too high, or that it should be lowered to meet the requirements of other States. I believe the standard of other States should be raised to correspond with ours, and that the person possessing the right to practise in one State should have the right to practise in any State in the United States. In other words, there should be reciprocity between State examining boards, and this can only be brought about through the efforts of a National body made up of medical societies in interested States. There should also be in this country a National Bureau of Public Health, with a physician at its head, who should be a member of the Cabinet of the President of the United States. This, too, can only be brought about through the efforts of a National Medical Society.

The American Medical Association is in the field; its first meeting was held in the City of New York and the Medical Society of the State of New York was party to its organization. We have become estranged and it seems to me that some steps should be taken to bring about a reconciliation, if it can be honorably accomplished. The unity of the profession and representation in the American Medical Association are objects well worthy of attainment, but nothing on this earth is worth the sacrifice of honor.

A search through the proposed new constitution and by-laws of the American Medical Association fails to reveal anything of a code of ethics, and we have been informed that if our members presented themselves as delegates to the American Association they would not be

asked to subscribe to a written code or creed. We are told the only obstacle in the way of delegates from our Society being recognized by the American Medical Association is the presence of the New York State Medical Association, which is the body in affiliation with the American Medical Association, and the National body cannot recognize two organizations in one State.

There can be no greater compliment paid to the Medical Society of the State of New York than that other organizations have adopted the plans and ideas promulgated by the State Society. Medical examining boards in nearly every State in the Union are copied after our State board, which is largely the creation of our State Society. Our system of organization, comprising a central body or head, with county or subordinate branches sending delegates to make up the central body, has been adopted by other State societies, including the New York State Medical Association, as well as the American Medical Association. This system has been our plan of organization since 1806. One of the prominent members of the American Medical Association, whose name I am not at liberty to divulge, in writing to me, says: "Nearly all the States have followed the example of yours in reference to laws regulating the practice of medicine, and in all these States our members of Boards of Examiners violate the letter of the code in signing certificates for irregulars. Your State was simply unfortunate in being the first to take this step and thereby bring down upon it the censure of a few of the strict code men in the Association." Our State Society has been criticized for taking the step of abolishing the code of ethics too soon, our critics contending that the same thing would have been accomplished in the end without any difficulty if matters had been allowed to take their course. However this might have been, whether our action in 1882 led to the accomplishment of what we have been told has been accomplished—the abrogation of the code by the American Medical Association—or whether this would have been the natural course of events regardless of our action at that time, is not for us to say. It is sufficient to know that this has been accomplished—if it has been—and that there is now no difference in this particular between the Medical Society of the State of New York and the New York State Medical Association.

I cannot believe it is the proper course to pursue for members of the Society to become members of the Association in order to become members of the American Medical Association. If the doctrines promulgated by our Society have been adopted by others, and if our system of organization is, in the main, that on which the reorganization of the American Medical Association has been accomplished, it seems hardly fair that our members should be asked to affiliate with a younger medical body, and that the claims of the older organization should be ignored. At the same time it is not to be expected that the younger body should yield everything to the older. There should be some common ground on which the advocates of both organizations could get together and determine what, if anything, can be done. My recommendation is this: That the Medical Society of the County of New York appoint a committee to confer, if possible, with other organizations, to ascertain if an amalgamation of the Society with other societies and associations cannot be accomplished on terms satisfactory to all concerned, and that this committee report to the Society at the stated meeting in January, or sooner, in order that some recommendation may be made to the Medical Society of the State of New York at its next annual meeting.

Gentlemen, and fellow members all, in conclusion let me say that I am not one who believes in rejecting overtures of peace. I would hold out the right hand of fellowship to any member of the profession who is respectable; indeed, I would go farther; I would present the olive branch to our colleagues in other organizations which have been opposing us. I would be willing to make concessions, and would exhaust every honorable means to bring about a reconciliation; but, if our efforts are spurned, we of this Society—which is venerable in years and honorable in reputation—must go on in our own way, being true to the Society and to ourselves, and from other States men will flock to our banners—as I am informed they are willing to do now—and we can not only build up and tional body which will fulfil the purposes for strengthen our Society, but we can create a Nawhich such a body should be created, namely, to uplift the profession and to protect the public health.

ORIGINAL ARTICLES.

THREE POINTS IN THE TREATMENT OF THE DEFORMITIES OF INFANTILE PARALYSIS.[1]

BY JOHN LINCOLN PORTER, M.D.,
OF CHICAGO;
PROFESSOR OF ORTHOPEDIC SURGERY, COLLEGE OF PHYSICIANS AND SURGEONS, UNIVERSITY OF ILLINOIS.

INSTEAD of following the synopsis of this paper as outlined in the program and discussing the pathology and operative technic of these conditions, I shall confine myself to a few words on the treatment of the deformities of infantile paralysis. It is not because I have any new ideas to offer that I am induced to take up this subject, but because certain small details, so often overlooked or forgotten in the management of these cases, are worthy of more careful attention, and because the sufferer from infantile paralysis is entitled to the benefit of every therapeutic measure that can possibly improve his condition. And at this time, as a further preface to what I shall say about treatment, permit me to add that every case of in-

[1] Read by title at the meeting of the Illinois State Medical Society, Peoria, Ill., 1901.

fantile paralysis is sure to result in some deformity sooner or later, and that the chief factors in the production of these deformities are the atrophy and loss of power of the paralyzed muscles and the consequent contraction and shortening of the active and unopposed muscles. Bearing in mind these facts, I wish to emphasize three points in the treatment of these deformities.

The most efficient treatment of the deformities resulting from infantile paralysis is the preventive treatment. Infantile paralysis is the cause of about 35 per cent. of the deformities of the lower extremities that come to the orthopedic clinics. In a very large part, if not all, of these cases, the deformity could have been prevented if treatment had been begun earlier. Rarely does a case come to the attention of the surgeon until the contractures and deformities are marked. I think I am safe in saying that I have never seen a case of infantile paralysis within six months of the acute attack; usually it has been years afterward.

Treatment should be begun as soon as the extent of the paralysis is well defined, for we can then predict almost definitely what the resulting deformity will be. The parents do not realize this because their whole concern at that time is with the paralysis and their thoughts are occupied with trying to find something, medicine, electricity, massage, that will bring back the power in the afflicted limb. We know that to a certain extent that power will never be recovered and, further, we know that contractures of those muscles that are unaffected, and consequent distortions of greater or less extent, are sure to take place. The family should be made to realize this. After recovery is complete and all has been done that can be done to improve the tone of the muscles that are spared, they should be told that, so far as the paralysis is concerned, the account is closed and, if they wish to make the best possible use of the limb and prevent more trouble in the future in the shape of deformities, they must take steps at once to do so.

Human nature is very prone to put up with burdens that come on slowly so that the individual becomes accustomed to them, when the same burden developing suddenly would seem intolerable. So in these cases of deformity which develop gradually the child becomes accustomed to the disability, and the parents, having accepted the fact that the paralysis is incurable, naturally conclude, unless they have been warned, that the resulting deformity is unavoidable.

A boy, eighteen years old, was recently sent to me for scoliosis. As he came into the office, I noticed that he walked with a limp that was not accounted for by any scoliosis. On undressing him, I found a severe, rigid, right dorsal-left lumbar curvature of the spine, and, in addition, the left leg was partly paralyzed and two and one-half inches shorter than the right. The short leg was the sole cause of the lateral curvature. The paralysis had occured at four years of age and had affected nearly the whole leg, but enough muscles were spared to allow him to walk without support and contractures were not severe. He had gone without treatment until he was twelve years old, when the spinal curvature became so marked that the parents began to get ready to do something. He went through various hands for the next six years, including the Kirksville School of Osteopathy, where he boarded for several months to get the benefit of being at the fountain-head. When he came to me his mother said he was worse than ever. Inquiry brought out the fact that no one had ever suggested lifting the shortened leg. They said the doctors had never paid much attention to that leg because they said it was incurable. I assured them that the spinal trouble was also incurable, but that I believed the lad could be much improved by simply wearing a high shoe. This was done and the improvement was so marked

FIG. 1. Showing the brace in the rough before being leather covered and nickeled; the joint at the knee is unlocked. A foot-plate used in cases of varus and worn inside the shoe is also shown.

that I was encouraged to attempt treatment of the spine and eventually increased the improvement already gained. Had the boy begun twelve years before wearing a high shoe to compensate for the gradual shortening, the spinal curvature would never have developed. This brings me to the second point that I want to emphasize.

Every case of infantile paralytic deformity, however slight or severe, can be improved to some extent by appropriate treatment. That treatment may be anything from adjusting a simple ankle-brace to correcting clubfoot, to an extensive tendon transplantation or to the production of an artificial ankylosis of a joint. We are all familiar with the condition in which the anterior muscles of the thigh and leg are affected but those of the calf are spared. As a result the

patient walks awkwardly, throwing the leg forward by the aid of the ilio-psoas muscles and bringing the foot down flat on the floor and fixing the knee by hyperextending it. The center of gravity falls behind the heel and the tense posterior ligaments hold the knee stiff while the weight is thrown forward over it. Often the patient has a habit of fixing the knee with a hand on the thigh. As a result of this constant hyperextension of the joint the head of the tibia is displaced backward and somewhat inward, and the foot becomes extended by the contraction of the soleus muscles.

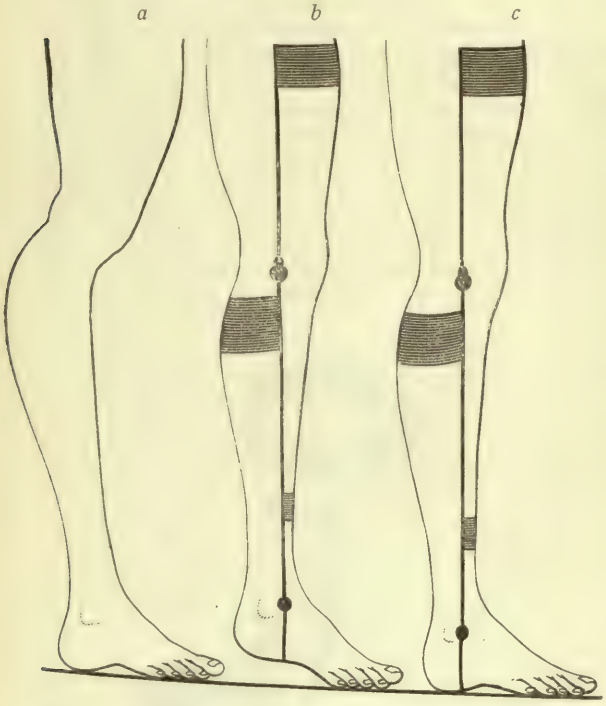

Fig. 2. Showing mechanical effect of brace and tenotomy in the condition described. (Adapted from E. Noble Smith.)

I have had this unfinished brace made for a little patient of seven years with exactly that condition. It works thus: A bearing-point is made on the anterior surface of the thigh by means of this spring-steel band which passes half round it, another is fixed in the same way just above the ankle, then the leather strap is passed behind the head of the tibia just below the knee-joint and thus the tibia is drawn forward by tightening the strap. Sometimes this can be accomplished quite rapidly; at others it takes several weeks, the strap being drawn a little tighter every few days. The bands at the thigh and ankle are completed by leather straps which buckle around the leg to hold the splint in place. At the knee a ring-catch joint is made so that the patient can sit down. When he rises to walk the ring drops over the projecting bar and fixes the knee stiff. That is the object—to stiffen the knee artificially in walking and hold it in normal position. But, when the head of the tibia is drawn forward into place, the heel is lifted from the floor by the contraction of the tendo-Achillis and the extension of the foot, so the patient cannot set the foot flat on the floor, but usually has to step on the ball of the foot. (See *b*, Fig. 2.) If now we do a tenotomy of the Achilles tendon, dorso-flex the foot to a little more than a right angle and put it up in plaster of Paris until the wound heals, then with a stop-joint at the ankle the patient can walk with the leg and foot in normal position. (See *c*, Fig. 2.)

This stop-joint allows of flexion to any extent as the body is carried forward, but extension is only possible to a right angle, thus preventing the toe-drop. When there is a tendency to inversion or eversion of the foot, instead of attaching the splint to the shoe, it is attached to a thin steel foot-plate with a flange on the inside or outside according to the condition and this is worn inside the shoe. (See Fig. 1.)

In cases where the posterior thigh muscles are spared, but the anterior ones are paralyzed, exactly the opposite condition exists—the knee is held in slight flexion by the contraction of the hamstrings, and the patient cannot walk at all. Here the same splint can be used by simply reversing the bearing-points and carrying the pressure strap over the knee and doing a tenotomy of the inner and outer hamstring tendons so as to extend the leg. Here the same ring-catch joint may be used or not. If the tendency to contraction in the hamstring muscles is very great it may be better to keep the knee stiff all the time.

Fig. 3. Showing brace adjusted.

The third point I wish to speak of is this: *Simple tenotomy of the shortened tendons in these cases is of great benefit aside from the release of tension and improvement of function that result.*

Every surgeon who has done tenotomies in cases where rigid contractures existed has noticed the marked improvement that takes place in the nourishment and general condition of the limb. Almost immediately in some cases, the leg becomes warmer and looses its blue appearance and not only the muscles that are released from tension improve in function, but some of the muscles that were thought to be paralyzed seem to gain in activity, showing that some trophic, vascular or reflex stimulus has been brought about by the operation.

E. Noble Smith (Paralytic Deformities of the Lower Extremities, 1900, p. 65) says: "The idea occurred to me that as tenotomy of a sound muscle is capable of producing so much improvement in nutrition in a neighboring muscle weakened by paralysis, how much more direct an influence would tenotomy of the affected muscle itself have. Acting upon this idea I have operated in this way upon two patients, . . . " and he goes on to give the histories of these two cases and states that to his surprise the paralyzed muscles in both cases showed some contractile power and the electric formula of degeneration, which had existed before the operation, was changed to one of active response.

Just a word of caution: Tenotomy alone for correction of a deformity caused by contractures is disappointing. Unless the improvement gained by the operation is maintained by proper mechanical apparatus, the contractures and deformity will almost surely recur.

The large number of these cases that we see which have had tenotomies done somewhere at some time and the limb allowed to relapse into its original deformity for lack of after-treatment convinces me that this point is not borne in mind by many who consider themselves competent to operate upon these cases. In dealing with paralytic deformities the essential treatment has but just begun when the operation is finished.

ARTIFICIAL MILKS.

BY LOUIS KOLIPINSKI, M.D.,
OF WASHINGTON, D. C.

MILK is the chief food of mankind. Its consumption is as universal as it is necessary. Without it the young will not thrive. The heavy mortality of early life is due to artificial and unnatural feeding. The infant properly nursed by the mother is the ideal of health and vigor. Milk for the new-born is indispensable.

In the child and adult, milk is no longer a *sine qua non.* A great variety of other foods is consumed varying with race and climate, civilization, habits and the fancies of the gastronomic art. Whilst no longer the sole means of subsistence the rôle of milk in dietetics is a great one. Without it the treatment of many diseases is futile. It remains a complete and perfect food for the sick upon which a wasted body can be revived and fattened. Its sole and persistent use is directly curative. So valuable a product cannot but excite admiration in whatever light it may be viewed. So extraordinary and perfect a combination cannot but produce an impression of harmony and adaptability upon the observing thinker.

Physically milk is the most perfect of emulsions. Chemically, its ingredients are so proportioned as to satisfy every organ of digestion and nutrition. Whilst in the generality of subjects the use of milk in disease cannot be improved upon by any other fluid food, in exceptional cases it cannot be administered for a variety of causes. Some of these are fanciful and the outcome of prejudice, others real and beyond the patient's will or judgment to control.

Amongst fancied objections are the impressions that it causes "biliousness," that it cannot be digested, that it causes constipation, that its taste is repugnant. Real objections of gravity are that in some it produces a diarrhea which continues as long as its ingestion, and in others, attacks of typical migraine. For these various reasons the writer has devised substitutes for milk where its use is thought a necessity, but when the patient's distaste or objections must be considered.

In composing an artificial milk the following conditions were considered. That it should approximately represent all of the component parts of the animal secretion. That the percentages of salts and of water are of vital importance. That the product should be cheap and readily and rapidly prepared. That the ingredients should be easily obtained. That they should be fresh and sterile and that the mixture be palatable. These requisites are fulfilled in the following general formula: Extract of malt (sirupy), one tablespoonful; olive oil, one tablespoonful; roasted flour, two teaspoonfuls; one broken raw egg. Beat up in a bowl or dish with a spoon or eggbeater for three or four minutes. Add by degrees whilst stirring, a tumbler or gobletful of pure cold drinking-water. Season with table-salt. To be taken one or two hours after meals. In hot weather add crushed ice or prepare the whole in a "milk-shaker."

As is apparent, the extract of malt is used to emulsify the oil, and for its diastatic effect upon the flour. The malt should be of thick consistency. The olive oil represents the fat of milk. The egg, the albuminoids, fat and salts of the natural fluid. The table-salt is added for its digestive effect and to improve the taste of the compound. The roasted flour after conversion into dextine and maltose replace the lactose of milk. The proportion of water is necessary for proper digestion and ready absorption.

This general formula is varied and modified in numerous ways, according to the circumstances or indications of any particular case. The

flour may be increased in amount or diminished or omitted. Increased for its soothing effect in intestinal disease, dispensed with where a carbohydrate is not indicated. The olive oil may be replaced by any other fixed oil or fat. Of the former class cod-liver oil deserves particular mention. Not alone for its great therapeutic-dietetic value, but because it has been found that thus administered it is very readily taken and that the great heat spells of summer are not at all an objection to its persistent use. Other more or less eligible substitutes for olive oil are the fixed oils of cotton-seed, rape-seed, sweet almonds, poppy-seed and peanut.

Of fats, unsalted butter and chocolate, a heaping teaspoonful of the first and two heaping tablespoonfuls of the second, will be found useful. In a chocolate milk, of course, the roasted flour is needless. The chocolate should be grated, or in fine powder form.

The flavor of these artificial milks is rich, and the after-taste pleasant. They produce the agreeable, general sensation of normal digestion. They are restoratives for minor forms of temporary exhaustion, muscular or mental. They produce feelings of composure and confidence. The subject's mind and manner, nerve and decision are at their best.

Special uses and effects will be found exemplified in the subjoined cases.

When Milk Cannot be Borne from Idiosyncrasy.

Case I.—A printer, twenty-seven years of age and able to pursue his daily work whilst under treatment, suffered from chronic pulmonary tuberculosis and chronic enteritis with ulceration. This docile and obedient patient, against his own judgment, consented to drink milk. An attack of migraine immediately followed confining him to his bed for a day. Artificial milks were then used; of olive oil, cod-liver oil, butter and chocolate. This is the record of improvement on the first-mentioned preparation all of which he took with great relish.

Height, 5 feet 7 inches; maximum weight at twenty years of age, 110 pounds; 1st day, 110 pounds; 4th day, 110½ pounds; 8th day, 111 pounds; 12th day, 112 pounds; 17th day, 113½ pounds; 30th day, 115 pounds; 40th day, 116 pounds; 45th day, 116½ pounds; 50th day, 117 pounds; 54th day, 117½ pounds.

Mother's Milk Can Be Replaced by the Artificial Milks in Infant-feeding.

Obviously this should only be done in disease or health when the infant is not breast-fed.

Case II.—An eleven-month-old babe, properly nursed and in good health, showed evidence of suffering, by constant screams, restlessness and loss of weight. This unusual behavior of the infant continued for a week. On investigation it was found that the mother was three months advanced in a second pregnancy and that the milk secretion had practically ceased. Starvation of her offspring was the consequence. The following was given with immediate relief and repeated four to six times daily: One-half of a whipped egg; cod-liver oil, one-half teaspoonful; extract of malt, one-half teaspoonful; roasted flour, one teaspoonful. Emulsify and add four fluid-ounces of cold boiled water. Season with table-salt. Give from a large spoon, cup or glass.

Case III.—A woman with an abundance of breast-milk began the use of a nursing-bottle upon her infant of six months. On the approach of hot weather the child developed a severe summer diarrhea and at the end of five weeks the medical attendant considered the case hopeless. Examination showed great emaciation of the body. The gums were deep red and swollen; no eruption of teeth; tongue small and dry. The babe uttered a constant, feeble wail. The abdomen was distended; the lower border of the enlarged liver and the outlines of the intestines were discernible through the shriveled abdominal wall. Feebleness was extreme; the picture was one of "marasmus." The presence of a continued fever which had, perhaps, existed all along made a prognosis unfavorable; tuberculosis being probably the essential cause of the malady. The infant was far too feeble to suckle and was given its mother's milk with a spoon. Four glasses of the cod-liver-oil milk as in the preceding case were administered daily. The emulsion was greedily taken and was very well borne. For five days the general state remained improved—sleep was natural and refreshing; the infant seemed strengthened. There was no change in the body temperature. Death occurred suddenly on the sixth day of treatment.

The emmenagogue action is certain where the proper indications are found. These are in non-pernicious anemias; physical debility from active or latent forms of gastro-intestinal diseases; the scanty or suppressed flow of obesity; incipient and chronic tuberculosis and the constitutional lean habit. In uterine atrophy it may be useful.

Case IV.—A. F., sixteen years of age; pale, weak, and hollow-eyed; figure stooping and manner languid. She has little appetite; feels tired; the peripheral circulation is sluggish. She is probably overworked at school. Menstruation appeared for the first time in traces for two days. November 22-23, 1900. Was given preparations of iron without result. The menstrual flow remained absent until February 10, 1901, when a very scanty discharge was recorded. On March 30, 1901, weight was 85 pounds. On April 1st was directed to take a goblet of artificial milk between meals twice a day. Olive oil was used, and the roasted flour omitted. Menstruated from April 6th to 9th normal amount. The girl's appearance was very much improved within a week. April 13th, weight 87 pounds. May 4th in lighter clothing weight 87½ pounds. May 6th, normal menstruation.

Case V.—A woman of thirty-nine years, mother of two children, the oldest eight years of age. Her health has been good for a long time, excepting attacks of acute bronchitis and of

spasmodic asthma. Has of late grown stout. Maximum weight, 158 pounds; height, 5 feet 2 inches. Menstruation did not appear in August, 1900; general state, normal. Gynecological examination showed healthy adnexa, the uterus slightly enlarged; position normal, cervix slightly lacerated; no leucorrheal or other discharge. There were none of the nervous and none of the local symptoms of the menopause. It was, therefore, assumed that the menstrual molimen had ceased as a result of obesity. Dietetic treatment for the reduction of the increasing weight did not seem indicated because of her general good health. Various remedies were given to restore the flow, but without result. The period formerly appeared in the first week of the month and continued three days. For this reason the olive-oil milk was taken twice a day beginning on June 1, 1901. She began to menstruate on the 17th—duration of flow three days. Emulsion resumed July 1st, flow began July 10th. In August she did not find it necessary to continue the treatment.

In consumption these emulsions are valuable whenever an increase of food is indicated, as is practically always the case. The existence of fever, intestinal catarrh or a dyspepsia are not contra-indications.

Case VI.—A retired painter of sixty-five years had pursued his calling for a lifetime. Of late years he had recurring pulmonary hemorrhages and a chronic cough. He contracted a right-sided pleuropneumonia which ran a favorable course in seven days. Succeeding this came a mild attack of gout probably due to chronic lead-poisoning. He became exceedingly weak and wasted and a severe spell of hot weather in the first days of July resulted in heat prostration and a debilitating diarrhea. In June two attempts to give the milk of olive oil proved futile, because of the resultant brisk purgation. Cod-liver oil was then exhibited and he at once began to improve in every way. Body weight June 27th, 111 pounds; August 1st, 119½ pounds.

An increase in the body weight has been the usual result of the exhibition of artificial milks in most of the cases where they have been found useful. In treating leanness, pure and simple, as a fault of nutrition—a state of the human economy vastly more common in America than obesity—these emulsions yield good service.

Case VII.—A widow past the menopause, of consumptive parents, has for years enjoyed fair health. Her weight at its maximum was 145 to 150 pounds. Of late without patent cause she has been losing weight until on April 13, 1901, she had sunk to 127 pounds. She consented to take the olive-oil emulsion two or three times a day as an experiment with the following result: April 13, 127 pounds; April 20th, 131 pounds; April 27, 131 pounds; May 9, 133 pounds; May 22, 134 pounds; June 7, 136 pounds. Four pounds should be added to the last weighing for the difference in the clothing worn.

In typhoid fever such preparations may be used to an advantage as adjuncts to the milk diet, or as temporary substitutes for the same, or during the stage of recovery when solid food cannot be given with safety.

Case VIII.—A woman of sixty years developed typhoid fever after having been her son's sole nurse for the same disease. On the fifteenth day the temperature ranged from subnormal to normal without any further elevations. Convalescence was not accompanied by the usual signs of prolonged sleep and increasing strength, but, on the contrary, her state was one of collapse. She was restless; clear in mind; extremities cold and in a clammy sweat. The pulse extremely weak and irregular. She was nauseated and with difficulty retained the milk given her. Her condition was not due to intestinal hemorrhage, but from acute cardiac weakness. A liberal supply of liquid food was imperatively indicated and, as the exhibition of milk was an affair of much difficulty, its action was supplemented with four goblets of the artificial milk of olive oil a day. This was taken with relish and, at the end of twenty-four hours, with apparent very great benefit.

As a galactogue good and speedy results are achieved in that very large class of nursing women in whom a debilitated state of the system is the primary cause of scanty milk secretion. In another class where insufficient and improper food and minor dyspeptic disturbances are causative factors, results equally as satisfactory are obtainable from their exhibition. Any of the forms of the artificial milk may be prescribed, agreeable to the palate of the patient or the judgment of the medical advisor.

For the use of travellers, explorers and sportsmen, the milks are theoretically well adapted. Probably as an army ration or for sick and invalid soldiers they may be found serviceable. No data having been as yet formulated, these statements are merely offered in a suggestive way to any whose opportunities may hereafter allow a practical test.

The cases narrated outline the manner of using these artificial milks in daily practice. They have received a fair amount of local approval and have at times been adapted to family use. As they are extemporized emulsions; easily and quickly prepared; their ingredients inexpensive and common, they will be popular with the housekeeper, cook, or nurse. Finally, the process is devoid of technical detail and requires no apparatus or appliance that cannot be found in the humblest home.

ON THE BIOLOGICAL RELATIONSHIP OF PROTEIDS.[1]

(Preliminary communication.)

BY P. A. LEVENE,
OF NEW YORK.

I AM prompted to make this preliminary communication by the appearance of Uhlenhuth's article in the *Deutsche med. Woch.*, 1901, No. 45.

[1]From the Saranac Laboratory for the Study of Tuberculosis; Dr. E. L. Trudeau, Director.

Uhlenhuth finds that the serums of rabbits treated with blood of different animals form a precipitate on addition of muscle extracts of the respective animals.

All researches published previously to the last publication of Uhlenhuth lead to the belief that the serum of an animal that has received several peritoneal injections of a certain proteid acquired the property of forming a precipitate only on addition of a solution of the same proteid.

The new work of Uhlenhuth would indicate that there exists a biological similarity between the blood and the muscle proteids, or, in other words, a biological similarity between proteids having a different chemical individuality, but obtained from the same animal.

Our laboratory is now engaged in the investigation of this question, and, although the work is not completed, we wish to say that thus far our results seem to be in conformity with those of Uhlenhuth.

We have "immunized" rabbits for about two months with milk and found that their serums will form precipitates with milk, casein, milk albumin and also with beef serum. The same serum will fail to form precipitates with the entire white of the egg, egg albumin, egg globulin, chicken serum, sheep hemoglobin.

On the other hand, we found that animals that received injections of the white of the egg for two months will form precipitates with egg albumin, egg globulin, the yolk of the egg, with chicken serums, also with turkey serum.

No precipitate will be formed on the addition of milk proteids, beef serum, nor of the different proteids of the latter, of guinea-pig serum nor serum of a normal rabbit.

The results thus indicate that chemically different proteids derived from the same or closely related animals have the power of producing similar "precipitines" when injected into animals.

It therefore seems to us that human milk could be used for obtaining serum for the detection of human blood. The details of the work in progress will be published in full when completed.

MEDICAL PROGRESS.

THERAPEUTICS.

Regimen in Bright's Disease.—Without questioning the fundamental importance and value of absolute milk diet in Bright's disease, A. MARTINET (La Presse Méd., Nov. 13, 1901) observes that clinicians of wide experience have all seen patients do well in spite of the latter's refusal to submit to the dietary rules prescribed by their physicians. This writer recalls the contention of Robin, who believes that vegetarian diet is more potent than an exclusive milk diet in the control of albuminuria. The principle of dietary regimen in renal disease is the reduction of the work of the secreting cells. It is impossible to exclude nitrogen elimination absolutely, because, even in absolute starvation or a diet of water alone, proteid substances derived from the body tissues continue to find their way through the secreting renal cells. To maintain nitrogenous equilibrium at least three liters of milk a day must be taken, and, while some patients bear this diet well, it provokes in others gastric dilatation, fermentation, toxemia and loss of strength. When disturbances of digestion follow the tentative resort to milk diet, the latter may wisely be abandoned for a more liberal regimen; the general condition of the patient and not the quantity of albumin in the urine becomes the guide to treatment in such cases. In acute nephritis absolute milk diet may be regarded as essential; in chronic cases the following plan is proposed: Begin with milk exclusively, and watch the urine; usually the albumin will first increase, then diminish, then remain stationary; now add vegetables and study the albuminuria quantitatively as before; when variations cease try meats cautiously, again studying the albuminuric curve. Ultimately that diet is adopted which minimizes the albuminuria, whether it be purely lactic, lacto-vegetarian, or lacto-carno-vegetarian.

Sulphur in Dysentery.—Mr. Arbuthnot Lane advocates the use of sulphur in the treatment of anthrax, and, as ipecacuanha was also used in this disease, E. G. RICHMOND (Lancet, Nov. 23, 1901) determined to try it in cases of dysentery. Many cases of the latter disease failed most signally to respond to the ipecacuanha in the Imperial Yeomanry Hospital at Delfontein, South Africa, but where sulphur was used the results justified all the expectations hoped for. There was little or no tendency to relapse or to chronic conditions of alternating diarrhea and constipation. Every patient was ordered a farinaceous diet from the first; meat of every description was forbidden until the diarrhea had ceased for a week. Twenty grains of sublimed sulphur, combined with five grains of Dover's powder, were ordered every four hours, and from the administration of the first powder the general condition of the patient became much improved; the diarrhea and distressing tenesmus and griping were relieved at once, while the passage of blood and mucus was stopped in two days. The writer treated ten chronic and eleven acute cases of dysentery. In the first class sulphur alone was administered, but in the acute cases opium was added. Just how the sulphur acts the author does not state, but he thinks that there may be liberated sulphuretted hydrogen and other sulphur acids which inhibit the growth of the micro-organism specific for the disease.

Suprarenal Extract in Hemophilia.—According to Dr. F. Grunbaum, this condition is due to a congenital hyperplasia of the muscular coats of the arteries, and thus suprarenal extract should not have any effect upon it. However, W. THELWALL THOMAS (Brit. Med. Jour., Nov. 23, 1901) says that he has used the drug most extensively with absolute results. The powdered extract is put on the bleeding surface and five grains given internally every four hours. It is advised that "bleeders" should be given this drug, that they may carry it with them on all occasions and that they apply it themselves whenever the emergency shall arise. The writer is of the opinion that, in spite of the pathology of the disease, the drug should have a larger and more complete trial.

Should Fever Be Treated, and How?—An analysis of speculative arguments as to the treatment of fever is presented by E. JENDRASSIK (Revue de Méd., Nov. 10, 1901), who then proceeds to discuss the question clinically. Although those who oppose the treatment of fever maintain that mortality has not essentially changed since the introduction of antipyretics, statistics are not reliable and every clinical observer can recall cases of infectious fevers in which grave

conditions were distinctly ameliorated by antipyresis. Such cases are more numerous in pneumonia than in typhoid. Assuming that the chances of cure are not improved by the use of antipyretics, and that febrile diseases cannot be shortened by this means, Jendrássik remarks that it would be worth while still to remember the patient's comfort. The final issue of a case of pleurisy is not affected by suppressing the patient's cough, but pain is lessened. The author takes issue with those who decry the chemical antipyretics. He believes that baths are of precious tonic value in some cases, but that they cannot rival drugs as antipyretics. Chemical antipyretics are objected to on the ground that they lessen oxidation and hinder nutrition; but to diminish oxidation is to spare the patient's strength, while digestion certainly is not lessened by lowering a febrile temperature. Antipyrin does diminish the secretion and lessen the toxicity of the urine; nevertheless the augmentation of the cutaneous secretion and the eliminative power of the skin are entitled to consideration. The danger of collapse from the use of antipyretic drugs is constantly asserted; but few cases are reported, however. Jendrássik favors among antipyretic drugs, antipyrin, phenacetine, and in moderate fevers, aspirin. In grave fevers, especially in children, phenacetine is prefered; tolerance is easily acquired and may necessitate a change after a few days. The general indication for the use of antipyretics is the presence of a fever which the patient is bearing badly. In the case of very weak patients it may be wise to give a little alcohol or other stimulant at the moment when the drug begins to act.

Iodides and the Heart and Circulation.—When iodides are given for aneurism, arteriocapillary fibrosis and degenerative changes of the cardio-vascular system, no immediate action upon the circulation is observed as in the administration of nitrites, aconite and digitalis. Whatever curative effect they may exercise is brought about gradually and slowly, so that only after prolonged administration can any distinct improvement be seen in the morbid condition, say R. STOCKMAN and F. J. CHARTERIS (Brit. Med. Jour., Nov. 23, 1901). Rosenbach expresses the opinion that the iodides are of no value in the treatment of aneurism and that they are even hurtful in arteriosclerosis. As a rule, the pulse remains unchanged to the finger-tips after the administration of sodium or potassium iodide, both in rate and in force. In spite of this, text-books tell us that the iodides produce a depressing effect upon the circulation and blood-pressure. The writers believe that the laboratory results should not be taken too seriously, as they are deduced from observations lasting but two or three hours, whereas in disease one can study its effects for weeks and months. In conclusion the results obtained were as follows: Sodium and potassium iodide given by the mouth do not alter the dynamic conditions of the circulation. They neither weaken the heart directly nor dilate the arterioles. The therapeutic effects must be due to some other mode of action. It is sometimes observed, for instance, that iodides frequently quicken and weaken the pulse, especially in goiter. Sometimes their administration is followed by emaciation. There is good reason for believing that in neither case is this a direct effect, but is due to increased formation or alteration of the iodine-containing thyroid secretion which has a powerful action upon the circulation and on metabolism.

A New Treatment for Hay-Fever and Allied Nasal Affections.—Treatment in this condition has usually been directed toward a supposed pathological condition of the nasal mucosa or hypertrophy of the tubinate bones. More recently also remedies which affect the vasomotor system have been largely used. E. FINK (Deut. med. Woch., Nov. 14, 1901) contends that these measures have only a temporary effect, as they do not take into consideration the true source of the irritation and the consequent discharges. His observations confirm those of Helmholz and a few other observers that the secretions are derived not from the nasal cavity proper, but from the accessory sinuses, particularly, as he showed, from the antrum of Highmore. He therefore treats such cases by insufflation, introducing a proper catheter into the orifice at the center of the middle meatus and using aristol by preference. The improvement was marked in all cases, most after three applications, the more resistant ones after seven or eight. The characteristic symptoms lessen and the intervals between tne attacks are prolonged. It is very important to supplement the local measures by treatment directed against the accompanying neurasthenia.

Treatment of Leucorrhea and of Gonorrheal Vaginitis.—P. CHAPELLE (Journ. de Paris, Nov. 25, 1901) says that yeast in the treatment of chronic leucorrhea and vaginitis due to gonorrheal infection has recently been tried with considerable success. Dr. Landau of Berlin was the first to apply it locally by injection for troublesome vaginal secretions, and found that small quantities produced a rapid and complete arrest of the discharge after a few weeks. Murer in France has used it in the same manner in gonorrheal discharges from the vagina, and found yeast most effective in suppressing inflammation of the mucous membranes, which regained their normal color rapidly. In the gonorrhea of men, however, it was not uniformly successful. In leucorrhea and gonorrheal vaginitis there occurs a substitution of a morbid fermentation for a non-dangerous yeast fermentation, the yeast-cells (saccharomyces cerevisæ), appear to devour the morbid germs, which set up inflammatory conditions. Pure ferments like yeast attract pathogenic germs, allow themselves to be penetrated by them and, once enveloped, destroy them by a true phagocytosis. The application of yeast itself in this connection is not convenient, owing to its keeping badly, its offensive smell and the difficulty of obtaining fresh supplies, as well as its inconvenient frothy nature, which makes it difficult to be retained when injected. This, however, can be overcome by using a pure desiccated form, known as cerevisine, which may be exhibited in the form of a pessary and placed in position on going to bed, or a paste made up with glycerite of starch, and retained with a tampon of absorbent cotton, or again applied by dipping absorbent cotton in a thin paste of cerevisine and water. The quantity for application is not important, as it is perfectly harmless, but from one to two teaspoonfuls can usually be introduced and retained in the vagina during the night, which will give more cleanly and comfortable results than injections of brewer's yeast during the day.

Effects of Electrical Currents and the Roentgen Rays on Bacteria.—After numerous experiments made with the direct, alternating, and Tesla currents, and also with the X-ray, the following conclusions as to their influence on bacterial growth are noted by F. R. ZEIT (Jour. Amer. Med. Assoc., Nov. 30, 1901). The continuous electrical current alone has no bactericidal or antiseptic properties, but can destroy bacteria only by its physical effects, heat, or chemical effects, the production of a bactericidal substance by electrolysis. A magnetic field has no effect whatever. Alternating currents favor growth and pigment-production. Tesla currents, those of high potential and frequency, are only effective from the brush discharges by the pro-

duction of ozone. The Röntgen rays have no direct bactericidal properties.

Mercury and the Buccal Mucosa.—The condition known as mercurial stomatitis which sometimes appears early in the treatment of syphilis is, according to DR. SUBIRANO (Rev. Esp. de Sifilografia y Dermatologia, Oct., 1901), a septic infection due to disturbance of the physiological equilibrium normally existing in the mouth between the saliva and lymphatics, on the one hand, and the bacteria upon the other. Mercury, through its elimination by the bucco-salivary glands, changes the chemical nature of the saliva and renders the mucosa a fitting soil for increased activity of bacteria. As the number of bacteria in the mouth depends largely upon the condition of the teeth, Dr. Subirano holds that the first duty of the physician to his luetic patient is to obtain the coöperation of his dentist before and during mercurial treatment in order that the mouth may be rendered as nearly as possible aseptic; lest the appearance of stomatitis, so common among those who neglect the mouth's hygiene, lead to the belief that mercurial saturation has been reached and to the too early withdrawal of the drug, thus imperiling the vital organs through the influence of the syphilitic virus.

Intra-Arachnoid Injections of Antiseptics.—The possibility of a new therapeutic agent for cerebro-spinal infections is suggested by the experiments of A. MARIOTTI (La Riforma Medica, Oct. 3, 1901) in the injection of antiseptic substances in dogs by lumbar puncture. The solutions used were carbolic acid, iodine, and corrosive sublimate in quantity sufficient to destroy micro-organisms without producing toxic effects in the subject treated, the amount being about equal to the hypodermic dose. Unfavorable symptoms were not observed in any of the dogs experimented upon, even after repeated injections. With the view of ascertaining how high the fluid was carried, a colored solution was injected and after two hours the dog was killed; examination showed that coloration extended as high as the fourth cervical vertebra. Other experimenters have reported coloration extending to the brain after lumbar injection.

Quinine as Styptic and Antiseptic.—Iodoform and its derivatives have so many objections that H. MARX (Centralbl. f. Chir., Nov. 9, 1901) has been induced to search for substitutes. Among these he tried quinine with very great satisfaction. He makes a solution containing hydrochlorate of quinine one, alcohol three, and distilled water to one hundred parts. The quinine may be increased to two or more per cent. As a styptic he finds that gauze soaked in one of the above solutions is without equal, especially in bleeding from the parenchyma of organs like the liver. As a disinfectant, he has tried it only upon infected wounds and sinuses. Here it is active, efficient and certain. He also has found the above solutions a convenient means of freeing the hands from infected matter during an operation. He is now experimenting with various processes for producing gauze impregnated with quinine in the same manner as we now impregnate it with iodoform. The results of these experiments he promises to publish at a near date.

SURGERY.

Some Experiences with Blood-Examinations in Surgery.—Some surgeons refuse to operate on a case in which hemoglobin is reduced below 40 per cent. J. B. DEAVER and E. K. MOORE (Phila. Med. Jour., Nov. 23, 1901) state that in the German Hospital of Philadelphia operations have been successfully carried out for acute suppurative conditions or after acute or chronic hemorrhages notwithstanding the most extreme oligochromenia; several cases showing less than 20 per cent. of hemoglobin. The erythrocyte-count gives the surgeon an index of the powers of resistance of a patient as well as a guide on the severity of the infection. In appendicitis leucocyte-counts ranging from 10,000 to 17,000 cannot be relied upon to reflect the character of the local lesion, since this degree of increase may be found in mild catarrhal and in purulent cases. Counts of over 20,000 invariably indicate pus, gangrene or general peritonitis. In the differential diagnosis of appendicitis the leucocyte-count is of limited value, because ovarian abscess, pyosalpinx, renal abscess, hepatic abscess, gall-bladder empyema, and malignant disease of the cecum are all as a rule accompanied by leucocytosis. Acute gastritis and dysmenorrhea may or may not present a high leucocyte-count. In the diagnosis between appendicitis and uncomplicated typhoid, leucocytosis suggests the former. In carcinoma the blood changes are not pathognomonic. The recently-proposed theory that an increase in polymorphonuclear leucocytes shows the presence of pus without an absolute increase in leucocytes is not yet proven.

New Method for Sterilizing Catgut.—The following method is advised by C. A. BALL (Brit. Med. Jour., Nov. 16, 1901). Catgut up to No. 4 is rolled on glass reels and soaked for twenty-four hours in a 5-per-cent. solution of formalin; it is then thoroughly washed in cold water. It is next dropped into boiling water and left there for from five to ten minutes, according to the thickness of the gut. Finally, it is placed in the following solution: Mercury perchloride, 1 part; boiled glycerine, 250 parts; methylated spirit, 1,000 parts. The gut is then ready and receives no handling after sterilization until it is used. The glycerine and spirit dehydrate the gut and the former renders it pliable. The mercury perchloride impregnates the gut swollen by boiling with an antiseptic and hardens it sufficiently to prevent its twisting when moistened by the tissues during the process of stitching, a difficulty with gut dehydrated by alcohol alone. Catgut prepared in this way is undiminished in strength and keeps well; it is pliable and knots nicely; it is absorbable (No. 0 is absorbed in about six days); and, lastly, it is sterile.

Cholecystitis and Cholangitis Complicating Gall-Stones.—A contribution to the surgical pathology of this subject is made by D. N. EISENDRATH (Jour. Amer. Med. Assoc., Nov. 30, 1901), in discussing the case of a girl aged seventeen, who was operated on for gall-stones and purulent cholecystitis in which the colon bacilli were found in pure culture, and who died three days after the operation with symptoms of cholemia, whose liver showed evidence of a diffuse hepatitis and non-suppurative cholangitis, which undoubtedly disturbed the hepatic function to such an extent as to cause death. The question arises, Why should a patient die with symptoms of cholemia whose only complaint had been gall-stones complicated by a purulent cholecystitis? Although normal bile is sterile and a poor culture medium, it has been found that anything which interferes with the contractility of the gall-bladder musculature, the presence of a foreign body, or obstruction of the common duct, causes a marked increase in the number of micro-organisms in the biliary passages. Such infection is also known to be of prime importance in the formation of gall-stones. The latter often cause stagnation of bile, thus favoring the invasion of the liver parenchyma itself, usually by the colon or typhoid bacillus, and inducing necrosis. This results in paralyzing the ability of the liver-cells to get rid of bacteria and various toxins and also in reducing to

a minimum the formation of urea and allied products. The death of the patient in question was probably due therefore to an auto-intoxication, resulting from a lack of functional activity of the liver-cells and hepatargy would be a more suitable name than cholemia. The symptoms are mostly of a nervous character and greatly resemble uremia or diabetic coma. In every case of gall-stones an exact diagnosis must in addition be made of any complicating conditions. With pus present in the gall-bladder operative interference should be early and the prognosis guarded on account of the possible cholangitis.

Treatment of Piles by Injection of Carbolic Acid.—In applying this treatment attention should be paid to the variety of hemorrhoids, the strength of the solution, the amount used at each treatment. G. W. GAY (Boston Med. & Surg. Jour., Dec. 5, 1901) describes the carbolic treatment as palliative merely and as applicable only to internal piles. It is safe, not painful, can be done in the physician's office, requires no anesthetic, does not compel the patient to go to bed. Bleeding is controlled, protrusion prevented and the tumors so shrivelled up that for a long time they give no discomfort. External piles are made worse by this treatment. In treating piles which are above the internal sphincter or which will remain there when so placed, a 10 per cent. carbolic acid solution is used, the dilution being with glycerine and water. For a pile as large as a filbert, one minim of the solution will suffice; for larger ones two minims are required. An ordinary hypodermic needle is used.

Early Diagnosis of Hip-Joint Disease.—Diminished abduction is universally recognized as a diagnostic point in advanced stages of hip-jonit disease. It is maintained by J. A. BECHER (Berl. kl. Woch., Nov. 25, 1901) that this same test can be utilized advantageously in the diagnosis of the early stages of the disease, long before palpation reveals changes in the joint and before any deformity whatever in the trochanteric region can be demonstrated. This symptom is of value in the differential diagnosis of arthritis deformans coxa, and sciatica. The patient is asked to spread his legs as far apart as possible, when it becomes evident at once that on the healthy side there is a sharper angle between the extremity and the trunk than exists on the opposite side.

Umbilical Hernia.—A new procedure for the radical cure of umbilical hernia is proposed by H. B. DELATOUR (Brooklyn Med. Jour., Dec., 1901) which may be briefly described as follows: An elliptical incision is made about the base of the tumor through the skin and subcutaneous tissues, and the sac freed from the ring. A median incision is made in the abdominal wall about one inch below the edge of the ring and the peritoneum opened. The finger is introduced and swept around the ring within the abdomen, and all adhesions broken up. The incision is carried up on either side of the fibrous ring to a point in the median line an inch or so above the upper limit of the ring. This removes the sac unopened. The hardened neck may then be incised and the contents examined. The omentum and intestines can be treated as required. The abdominal wound should be closed as follows: The peritoneum and the posterior sheath of the rectus should be sewn with a continuous catgut suture, next the edges of the rectus, then the anterior sheath with chromic gut and the skin with subcuticular suture of silk. These advantages are claimed: (1) A saving of time and minimum handling of tissues; (2) it takes away from the abdominal cavity the contents of the sac until they have been inspected so that gangrenous intestines or omentum are not necessarily handled; (3) it gives firm closure of the wound with proper approximation of the layers.

Compound Fracture of Both Jaws.—This rare occurrence is described by H. WEIGHTON (Lancet, Oct. 26, 1901). The injury was received in a coasting accident on a bicycle, by being thrown against a stone pillar. Although there was no external wound, the lower jaw was found to be broken near the symphysis and part of the alveolar margin with three teeth was detached. There was likewise a fracture in the upper jaw on each side in the region of the canine teeth, but without much displacement or deformity. The whole premaxillary bone could be easily moved about. The primary, temporary treatment was with wire splints fixed on the outside with a poroplastic splint fitted to the chin and fastened with a four-tail bandage. The next day a dentist made a mould for both jaws by means of which all the teeth were brought into line and held there. The outer dressing was then replaced. A dilute solution of permanganate of potash kept the mouth clean. Fluid diet was administered through the nasal tube. After a short time drinking through the mouth was permitted. After five weeks the cure was found complete except the broken alveolar margin, which had to be removed. At the present time the patient can eat all kinds of food and has no deformity.

Pelvic Suppuration.—The appearance of pus in the pelvis is always serious. From the nature of anatomical arrangement of the genito-urinary tract, it is more common in the female than in the male. J. L. FAURE (La Gynecol., Oct. 15, 1901) gives the following headings for its medical treatment. The basis is absolute rest in bed, begun as soon as the active symptoms appear and continued until they disappear. It is surprising how much can be accomplished by this means alone. Very hot vaginal irrigations are the next most important therapeutic measure. They act by quieting the congestion of the uterus and its adnexa, and by promoting a resorption of the exudates. An antiseptic, such as the bichloride of mercury, may be added with the sole purpose of keeping the vagina perfectly clean. It is, of course, impossible for such medicament to reach the cavity of the uterus or the adjoining tissues. Rectal irrigations of hot water may be considered more efficacious than the vaginal injections, because with the necessary precautions they come into nearer relation with the tubes, ovaries, and broad ligaments than they. A double-current rectal tube is essential for their successful use. The temperature must be as high as can possibly be borne. After the acute symptoms have by these means subsided, gynecological massage must be tried. In order to be adequate this must be carried out regularly and thoroughly. Mineral waters and thermal baths are not to be forgotten. The other systemic means of supporting the patient are too familiar to need mention. These measures, with the addition of opium suppositories, mustard plasters and ice upon the lower half of the abdomen, will control or cure a very great number of cases, and prevent surgical treatment, which, after all, should be the last resort.

Congenital Dislocation of the Hip.—Much attention has recently been given in the European press to this subject. DR. JOACHIMSTAHL (Arch. f. klin. Chir., 1901, B. 65, H. 1) gives the following points in the pathology of this condition. The acetabulum is smaller and flatter than normal, as a rule, but occasionally deeper and almost conical. Instead of its normal shape, it may be practically a pyramid of three sides. Its actual diameters are not, however, much reduced. Its deepest part is thicker than normal and the bone is filled with holes for nutrient vessels. The pelvis as a whole near the acetabulum is considerably thickened. The ilium

shows just above it, in most subjects, the socket of the false joint created by the pressure of the femoral head. Below the anterior inferior spine is a very deep notch, which accommodates the ileopsoas muscle as it passes upward to reach the lesser trochanter in its new position. The ilium is also directed more to the front, probably through pressure by the dislocated femur. The pubic angle is smaller. The tuberosities of the ischia are everted. The foramen obturatorium is smaller. The rami of the pubis and ischium are changed in direction. On account of the tilting of the pelvis downward on the side of the dislocation, there is a compensating scoliosis in the lumbar vertebræ. There are similarly-profound changes in the thigh bone. The head is either pointed or flat; the neck is shorter and more nearly at a right angle with the shaft. The upper extremity is twisted backward on the axis of the shaft, so that it presents a peculiar comparison with the normal side. Notwithstanding these profound changes in the old cases, he finds that in the recent cases, namely, children five years old or younger, treatment produces marked improvement. This consists in general anesthesia, fixation of the pelvis by an assistant, steady traction downward, usually with the aid of apparatus for ten minutes to overtire the muscles. Flexion and abduction are then carried out to such an angle that the head is felt or heard to snap back into the acetabulum. Pressure by an assistant upon the great trochanter is a valuable aid at this point. The angle to which flexion and abduction must be carried is usually about ninety degrees. Rotation inward or outward is often not necessary. After the head has slipped into place, the limb is held in the position at which this occurred and a plaster-of-Paris bandage is applied enveloping the whole of the thigh, the pelvis and the trunk just above it. While this is drying, pressure is made over the great trochanter to provide against recurrence of the dislocation. When the splints have hardened the relations within the joint are made out with the X-ray. This fixation dressing is kept on for three months or more. Then it is taken off and the patient allowed to get up on crutches. As he goes about the weight of the limb gradually restores it to its normal position, and then, with the aid of massage and passive and active motion, the child emerges with a hip that is almost normal in appearance and perfectly so in function.

MEDICINE.

Cryoscopy of the Blood for Prognosis.—Of late this procedure has come into vogue upon the Continent. Van t'Hoff and Raoult pointed out that fluids freeze at a lower point in proportion to the quantities they contain of impurities dissolved in them. Korányi, applying the law to blood and urine, showed that normal blood possesses a fixed freezing point of 0.56° C. below that of distilled water which forms the zero of that thermometrical scale. From this point it does not vary more than by one-hundredth of a degree up or down. Various German and French writers have applied Korányi's observations to the study of abnormal blood. According to ALEXANDER OGSTON (Lancet, Nov. 9, 1901) their conclusions may be thus briefly stated. So long as the blood is healthy and has its effete constitutents adequately eliminated, it retains its normal freezing-point, *viz.*, 0.56° C., or varying between 55°-57° C.; but if the elimination becomes defective, the freezing-point sinks to 0.58°-0.60° C. or even in one case of Kümmell's to 0.71° C. Beckmann has devised an apparatus for determining the freezing-point of blood and other secretions. It consists of a large test-tube set into a vessel containing ice and salt. Through a perforated cork placed in the mouth of the first test-tube, a second and smaller test-tube is inserted. This leaves an air space between the two tubes. The fluid to be frozen is put in the inner tube. A special thermometer is used which has as zero the freezing-point of distilled water. The freezing-point of the blood is to be determined by specialized manipulations with this thermometer. A case of fibrosarcoma of the kidney showed a rise in freezing-point. One case of cancer of the cecum showed a rise of .07 of a degree. The blood of a patient with an old empyema showed a fall of .01. Another with cystitis had a lowered freezing-point of .05. Phlegmasia dolens gave a drop of .03.

Spasmodic Bronchostenosis.—This affection is practically nought else but asthma without paroxysms and is caused by a tonic contraction of the muscular walls of the bronchi. As in true nervous asthma, a nervous element is the most prominent feature of bronchial spasm, other changes being either secondary or absent. A. ABRAMS (Med. Rec., Dec. 7, 1901) says that in bronchospasm, associated with bronchitis, as it usually is, we have all the symptoms of the latter plus a spasmodic cough which is exceedingly distressing and usually resists ordinary treatment. Sonorous expiratory râles with prolonged and accentuated expiration characterize this condition. Expectoration always signifying a suspension of the bronchial spasm. Amyl nitrite may be used in diagnosis, for it will always temporarily relieve such a spasm of the bronchi. Climatic changes are almost as essential as in ordinary asthma, but the iodide of potassium is frequently found to be a most effective remedy. A useful prescription is:

℞ Iodide potass.....ʒv
Tinct lobeliæ.....ʒx
Sp. glonoini.....mxvj
Elix. bromidi potass.....ʒiv

M. et. Sig. One teaspoonful three times a day, after meals.

Splenic Anemia with Ascites (Banti's Disease).—A form of disease characterized by anemia, marked enlargement of the spleen and later cirrhosis of the liver with ascites, was first described in 1894 by Banti. H. SENATOR (Berl. klin. Woch., Nov. 18, 1901), in analyzing a series of cases corresponding to those reported by Banti, shows that the stage of splenomegaly and anemia lasts for three or more years, in some instances having a duration of eleven years. Ascites then gradually supervenes, the symptoms of anemia meantime becoming aggravated. The stage of ascites terminates fatally after from five to seven months. Earlier writers regarded cases which were seen for the first time in the stage of ascites as hepatic cirrhosis; but the clinical forms never fully corresponded to any of the known varieties of cirrhosis of the liver, being always distinguished by extraordinary splenic enlargement and by hemorrhagic tendency. Senator maintains that the clinical course of Banti's disease is such that the splenomegaly cannot be attributed to portal obstruction. He is unable to prove that the disease is of infectious origin after careful search for a cause. The theory of infection from the intestinal canal is supported by the frequency of a preliminary history of diarrhea and other intestinal disturbance. The possibility that the ascites in these cases may sometimes be due to factors other than hepatic cirrhosis is suggested by the disappearance of this symptom in a case which Senator employed good nourishment, iron and arsenic; the splenic tumor and the anemia remained. The hemorrhagic tendency and especially the liability to hematemesis have been insufficiently emphasized by previous writers. Icterus is an inconstant symptom, even in advanced cases. Urinalysis fails to show any marked abnormality; the urine

contains no bilirubin or urobilin; albumin is rarely present. The blood characteristics are as follows: A variable diminution of erythrocytes, a relatively great loss of hemoglobin (low color-index), an absolute and relative loss of leucocytes without any change in the proportions of the different types of white blood-cells. A mild grade of fever is oftener absent than present. The first stage of Banti's disease cannot be distinguished from simple splenic anemia. The most recent report on the extirpation of the spleen in the cases is that of Maragliano, who reports nine recoveries out of eleven operations, the two remaining cases having been lost through uncontrollable hemorrhage. Aside from splenectomy treatment is limited to iron and arsenic, hygiene and diet.

Enterospasm.—Through a series of investigations in the intestinal neuroses and through observation of clinical cases, ABORTI (Rendiconti della Associazione Medico-Chirurgica di Parma, Nov., 1901), has collected the following data concerning the comparatively unknown and frequently unrecognized condition of enterospasm. This is understood to be a spastic state of the intestine, due to simultaneous contraction of the longitudinal and circular fibers. The condition may be caused (1) by anything intrinsic or extrinsic, which excites the peripheral nerves of the intestine; as inflammations, ulcerations, or irritation from other organs whose sympathetic ganglia are connected with the intestines; (2) by anything exciting the nerves which govern intestinal movements, or paralyzing the inhibitory nerves; (3) or it may be the manifestation of a general neurosis; hence hysteria and neurasthenia are common causes of the affection. The spasm may be general, although rarely so in the nervous form, or limited to one or two points; the colon being the most frequent site. In the first case, we have the characteristic retraction of the abdomen in boat-shape; in the latter, the abdomen assumes an irregular outline due to tumors corresponding to intestinal dilation above the site of the spasm. The sprincipal symptoms are (1) obstinate constipation with consequent loss of appetite and weakness; (2) slight abdominal pain located about the umbilicus, if the colon is the site of the spasm; (3) borborigmus; (4) tympanites; (5) tumefaction of the abdomen; and (6) more or less characteristic feces, the stools being small, usually cylindrical, and sometimes as narrow as a pencil. The prognosis depends upon the degree of spasmodic contraction and the possibility of removing its cause. The condition may persist, causing such changes in the tissues as to constitute a veritable stricture; or may disappear in a moment, as in hysterical cases. That occlusion of purely nervous origin occurs is proven by the cases which come to operation, in which no lesion can be discovered. The diagnosis is to be made from the symptoms mentioned, but above all by the careful analysis of the patient's general and nervous condition. In the case of rectal spasm the diagnosis must rest largely upon the last named considerations, and upon the effect of treatment. Massage, faradization, and drastic purges all increase the spasm. The main reliance in treatment is to be placed upon care of the general health, and such remedies as bromides, belladonna, and even opium if necessary.

Supra-Orbital Reflex in Facial Paralysis.—A reflex recently described by D. J. McCarthy consists of a distinct, but slight contraction of the orbicularis palpebrarum when the supra-orbital nerve, or occasionally one of its branches, is struck a slight blow. McCarthy regards this reflex as a demonstration of the sensori-motor mechanism of reflex action, inasmuch as irritation of a purely sensory nerve produces contraction in a muscle not immediately in relation with it, and supplied by a purely motor nerve. From a study of this reflex in cases of unilateral facial paralysis, J. SAILER (Phila. Med. Jour., Nov. 23, 1901) concludes that it is a true sensori-motor reflex. Contraction as a result of direct irritation of fibers of the orbicularis extending above the eyebrow can be excluded. Irritation of the supra-orbital nerve of one side may produce contraction of the muscles of the opposite side. In some cases the reflex manifestation may extend to other muscles which are situated a considerable distance from the supra-orbital nerve.

PATHOLOGY AND BACTERIOLOGY.

The Cause of Cancer.—Unmistakable proof of the presence of parasites as a cause of malignant disease is by no means at hand and we are still groping about, but undoubtedly nearer the light which is sure to come from future investigation. G. R. WILSON (Med. Times, Nov., 1901) reviews the experimental work upon this subject. As long as 1840 Langenbeck injected a dog with carcinomatous tissue and the dog subsequently developed carcinoma. Numerous similar experiments have since been made, but much of the work has been discredited. The bodies called parasites are generally found in the epithelial cells, especially in the protoplasm about the nucleus. They are spherical, frequently seeming to be surrounded by a double capsule. The opponents of the parasitic theory say that no one has yet been able to grow them outside of this environment. When injected alone they do not reproduce themselves in that animal. McFarland believes that these bodies are simply digested leucocytes, the result of hyaline degeneration, or vacuoles. Even if these parasites are present, are they really the cause of cancer? Cancer probably cannot be transmitted from one person to another. It is a non-inflammatory disease, while all known infectious diseases, except malaria, are inflammatory. The study of experimental teratology, the subject of malformations in the fetus and child, may some day be able to furnish valuable information.

A Modification of Neisser's Test for Diphtheria Bacilli.—Since the beginning of this year, in Cambridge and Colchester, England, over 2,400 tests for the Klebs-Loeffler bacillus have been made from cultures taken from the throats of persons suffering from diphtheria and from the mouths of those who have been in contact with such cases. In all of these cases the following modification of Neisser's stain has been employed at the recommendation of L. CORBETT (Lancet, Nov. 23, 1891). One drop of 5-per-cent. acetic acid is applied to the edge of a cover-slip preparation and drawn under it by means of a piece of filter paper held at the opposite side. The preparation is previously stained with a dilute solution of methylene blue. If the bacilli are watched while the acid is entering under the cover-slip, one sees first a current of fluid sweeping up the loose bacilli and hurrying them away. A blue cloud next appears and blots out everything for a second and passes on. Then once again the field is bright and clear, and the diphtheria bacilli, if such they are, show the characteristic polar bodies if stained in the way Neisser recommended—only the bodies of the bacilli are not brown, but pale blue. Hoffman's bacilli have a fairly-characteristic appearance when treated in this way. They do not so easily decolorize as the diphtheria bacillus and at about the middle of each half some blue remains. With the diphtheria bacilli the change is instantaneous, and the picture revealed is often not inferior to that of a Neisser specimen stained in the usual way. Neisser's stain fails to show the polar bodies in a small proportion of true bacilli; and it shows minute and doubtful ones in a few of Hoffman's pseudodiphtheria bacilli.

Agglutination Reaction in Different Grades of Infection.—Although five years have elapsed since Widal first published his method for the serum diagnosis of typhoid fever many points in the application of this method still remain obscure. While it is generally admitted that the reaction is one of the factors concerned in the resistance of the body to infection, it has not been definitely determined whether the intensity of the reaction corresponds closely to the ability of the body to resist infection. S. J. GOLDBERG (Ctlblt. f. Bak., Nov. 7, 1901) has taken up this question experimentally. The micro-organisms employed in his work were the b. pyocyaneous and the b. typhosus. In different series of experiments rabbits and guinea pigs were inoculated with fatal and non-fatal doses of these organisms or their toxins. The serum of these animals was then after varying periods of time tested for its agglutinating power. In order to control the results the serum of the animals used was tested previous to the inoculation for its normal agglutinating power. His work shows that in fatal infections the agglutination reaction remains the same as before the infections. In non-fatal infections the agglutinating power of the blood is increased over the normal. Different animals, however, inoculated with the same dose of bacteria or toxins do not show an equal increase of agglutinating power. With increasing infection the agglutinating power of the serum gradually increases until a maximum is reached; it then gradually subsides to the normal. In typhoid and pyocyaneous infections the degree of agglutinating power is not proportional to the degree of immunity produced. Agglutination is to be considered as a protective reaction of the organism against infection.

Diazo-Reaction in Malaria.—Much has been written concerning the presence of the so-called diazo-reaction of the urine in various forms of malaria and its value as a means of diagnosis between this disease and typhoid fever. In this connection the recent observations of J. BRAULT (Comptes Soc. Biol., Nov. 8, 1901) are of interest. He studied the disease during the recent epidemic in Algiers. In judging the results of the reaction not only was notice taken of the color of the body of the liquid, but especial attention was given to the coloration of the foam produced by violent agitation. He reports seventy examinations of forty-four consecutive cases. The observations were made both before and after the crisis of the disease. Of these examinations forty-seven gave negative results, fifteen were doubtful, seven were slightly positive, and one gave a reaction of fair intensity. He believes that this method rarely fails to give a differentation between malaria and typhoid and is of value when bacteriological methods are inaccessible or fail.

Staphylococcus Pyemia.—Much confusion has existed in the conception of the various forms of local and general infection produced by the staphylococcus. G. MUSCATELO and J. OTTAVIANO (Virchow's Archiv, B. 166, H. 2) have taken up this subject and worked it out along experimental lines. The chief forms under which a general infection produced by the staphylococcus can appear, toxemia, toxemia with bacteriemia and pyemia, are intimately related with each other. The predomination of one or the other of these forms in general infection depends upon the grade and species of virulence of the infecting organism, the existence or non-existence of local predisposing conditions, the absorbing power of the affected region of the body, and the general or local natural immunity of the infected individual. In all forms of general infection produced by this micro-organism intoxication is the original and constant effect produced. It is the primary cause of the changes produced in the various organs and prepares the tissues for metastic bacterial localization. The primary changes in the organs by this intoxication lower the natural degree of immunity and produce abnormal local physical conditions which favor the formation of metastases. For the production of staphylococcus pyemia are necessary intense intoxication, localities of diminished resistance and the introduction of numerous cocci into the blood. The distribution of the metastic formations stands in direct relation to the local physical conditions of diminished resistance.

Origin of Blood Platelets.—Much speculation has been indulged in with respect to the origin of the so-called blood platelets. HANS HIRSCHFELD (Virchow's Archiv, B. 166, H. 2) has made an extensive histological study of the blood in order to ascertain the origin of these bodies. He employed Ehrlich's method, all the blood-smears being fixed by heat at 110° C. for five minutes. The blood plates undoubtedly arise from the red blood-cells, but only a limited number of these cells give rise to the formation of such plates. They are formed in the interior of the erythrocytes where they exist as endoglobular bodies. Several plates may be present in a single cell. They generally leave the cell through a single opening in the cell membrane. Occasionally several such openings are present. Similar plates may arise from the leucocytes, but this rarely occurs under normal conditions. It is, however, of frequent occurrence in leucemia.

Blood-Examinations in Malaria.—It is a common impression that in malaria the examination of the blood for the presence of the parasite is uniformly attended by successful results. Those who have had much experience in this work, however, well know that such is not the case. In this connection the results obtained by J. BRAULT (Comptes Soc. Biol., Nov. 8, 1901) in the examination of malarial blood are of interest. He stained his smears with eosin (1 to 1,000) and Borrel blue. Of thirty-five cases examined only sixteen gave positive results. Crescents were found once, crescents and ameboid bodies once and the spherical bodies fourteen times. All of the pernicious cases gave positive results. Of six quotidian cases three gave positive results. In only one out of five tertian cases was the parasite found. Chronic cases with a relapse never gave positive results. In discussing the results obtained by this observer, M. Laveran drew attention to the marked difference between these results and those obtained by other investigators and called into question the technique employed by Brault.

Infectious Nephritis of Pyelonephritic Origin.—Infectious nephritis produced by the ascent of micro-organisms from the urinary passages is of interest not only on account of the kidney lesions produced, but also because of the liability of a general infection arisings therefrom. OTTO BRUCAUFF (Virchow's Archiv, B. 166, H. 2) has recently examined sixteen cases of this disease. In the vast majority of cases staphylococci or colon bacilli are the causative agents. The lesions produced by these organisms are not capable of sharp differentiation. In five of the cases examined regenerative changes in certain of the kidney abscesses were in progress. In these regenerating areas the infecting bacteria could be demonstrated by microscopical examination. They were incapable, however, of artificial cultivation and hence had perished. It is impossible to say whether the tubules of the kidney are ever reformed as the result of the regenerative process. It is uncertain whether the results of these observations can be applied to kidney abscesses produced by the hematogenic properties of the staphylococcus or bacillus coli communis.

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THE MEDICAL NEWS FOR 1902.

THE ideal medical journal is one that stimulates a man to put forth his best efforts in behalf of his patients, his profession and himself. It is one that gives him food for thought, one that contains news, facts and well-digested ideas, presented in the most practical and useful form, printed in the cleanest and simplest way.

The editor and publisher of the MEDICAL NEWS have aimed to produce the ideal weekly journal for the modern man of medicine. Only the original articles of men of authority and experience are accepted. It contains all the news of the medical week, not the news of gossip but the news of discovery, achievement and progress. The minor details of journal-making have been carefully studied, the choice of type, the width of margin, the quality of paper, the size of column and the grouping of subjects. The reader of the MEDICAL NEWS is freed from the weariness that comes from the use of fine type on thin paper, or the irritation of holding open a journal that persistently reverts to the folds of the mail, the friction that arises from looking up journal references with inconspicuous dates and poor indices.

The form in which we present this week's issue is that adopted for the coming year. By an increase of eight pages and a rearrangement of typography, space is provided for fully fifty per cent. more matter, and through judicious editorial management the exertion required of our readers will be so minimized that they may almost at a glance acquaint themselves with the best that is current in the medicine of to-day throughout the entire world.

We have planned for the coming year a series of papers in groups forming symposia on certain diseases. By concentrating in a single issue the discussion of a certain disease and presenting it from its many sides, we shall bring together the freshest experiences of the men most competent to handle the subject. The series of historical sketches of our principal medical schools will be continued, our correspondents in foreign medical centers will keep our readers thoroughly posted on European interests and the reports of home societies will be complete and recent.

The MEDICAL NEWS enters its sixtieth year with larger and fuller powers to maintain its allegiance to the aims and ideals of medicine and of the American medical profession.

REFORM.

THE medical profession of the city of New York has grown a trifle pessimistic on the question of the public care of the public health. It has become so accustomed to the presence of private greed and corruption in the distribution of city offices that the announcement of appointments made by the Mayor-Elect of able, scientific, and distinguished men as heads of the Departments of Health, Street Cleaning and Charities comes as an earnest of a new era of moral and material cleanliness.

We most heartily commend the good sense shown by Mr. Low; for he has surpassed even the fondest hopes of the profession. It was for a moment something of a disappointment to learn that a layman, although a man of science, and one unusually well fitted to cope with general sanitary problems, was to fill the very practical position of Health Commissioner, but, when Mr. Low announced that the Department was to be reorganized with Dr. Hermann M. Biggs in charge of the medical work, feelings of regret gave way to those of satisfaction at this eminently satisfactory arrangement.

The appointment of Dr. Biggs in connection with Dr. Lederle, shows that Mr. Low has appreciated as fully as the physicians of the city

the necessity of submitting all matters pertaining to the prevention of disease to a practising physician.

The city is still under further obligation to its new chief executive officer for his appointment of Dr. John McGaw Woodbury as Street-Cleaning Commissioner. Dr. Woodbury has shown great executive ability in a large practical experience in superintending the cleaning of camps and cities during the past Spanish campaign. Moreover, he has made a wide and deep study of sanitary methods and, being a physician, we can look for more than the much-needed but unusual coöperation between the Departments of Health and of Street Cleaning.

The profession of New York can now anticipate a comprehensive effort looking to a better condition of health in this community. With a united Health and Street-Cleaning Department, a competent and able Charities Commissioner and the strong probability of excellent nominees on the new board of Trustees of Bellevue Hospital, our ideal of perfection seems about to be realized.

VENEREAL DISEASE AND PUBLIC HEALTH.

As we begin the new century the watchword is the prevention of disease. Up to the present time, by a curious apparent contradiction, it has been mainly the medical profession who have been actively interested in the prevention of disease. Their livelihood depends on the treatment of disease, but they have devoted themselves to lessening their own pecuniary opportunities. Now, however, at length, philanthropists of all classes, have come to realize how much human happiness is bound up with the health of the human race.

Only one class of diseases has been kept beyond the pale of philanthropic advance. Poor sufferers from venereal disease are supposed to be outside the circle of those who deserve help, and the whole question of the correction of the evils, physical as well as moral, that result from venereal disease has been thrown upon the medical profession.

The report of the Committee of Seven appointed by the New York County Medical Society to investigate these evils, which we publish in full in this issue, shows how well the medical profession has realized its duty in this matter and how temperately helpful their suggestions may prove if followed in the true humanitarian spirit in which they are made.

While we are arousing the public to protect itself against consumption and the infectious diseases generally; while an expensive campaign is rightly waged against smallpox, and children are at last being rationally guarded from the ordinary diseases of childhood, it must not be forgotten that we have always with us disease enemies that are much more serious in their ravages than any of these.

This the public refuses to realize. The present report can accomplish no greater good than by bringing the subject of venereal diseases and their consequences into prominence and thus serving to dispel some of the obscurity in which it is deliberately allowed to remain. We have reached a stage of culture beyond that in which ignorance is reckoned as innocence. Assumed ignorance is never more than hypocrisy and the fabled ostrich seeking to hide by covering up its own eyes represents the height of good sense compared to the people who will not see the evils of venereal disease all about them. What an awful sensation it would make if it were reported that over 100,000 cases of a particular class of contagious disease occurred in New York City and were not mentioned in the Health Reports! Yet this is literally what happens with regard to the most contagious of diseases.

The time is ripe for the practical effort to be made to change this state of affairs. The new authorities of the municipal health board should at once accept some of the suggestions that the Committee makes. The gradual adoption of others will only be a matter of time, for the benefits to be reaped from this new departure in municipal health matters will soon be realized.

The Report can be commended to health authorities throughout the country as the conservative, thoughtful conclusions of men who, not only know conditions as they are, but have given fruitful study to the solution of the problem of amelioration of the present unfortunate state of affairs.

THE NEW YORK MEDICAL SOCIETY.

We are glad to be able to present to our readers this week the inaugural address of the new president of the Medical Society of the County of New York. Dr. Van Fleet may well be pardoned if he finds much to be proud of in the ninety-six years' existence of the Society.

As a matter of fact, however, he has been rather modest than overenthusiastic with regard to what the New York County Medical Society

has accomplished. That Society constitutes the main element of the State Society. Strange as it may appear, the panegyric of that body was heard from the lips of the last retiring president of the American Medical Association at the St. Paul meeting in June. Dr. Reed said in his presidential address, as reported in the MEDICAL NEWS, June 8, 1901:

"To-day there are forty-eight State or Territorial licensing boards, most of them composed of representatives of both the regular and the sectarian schools of practice. The laws of the different States are of varying efficiency. The one procured by the Medical Society of the State of New York, at the price of yet maintained excommunication from this body stands to-day as the model of excellence for the entire country."

The opprobrius excommunication for the time being of the entire profession of the great Empire State, Dr. Reed found most extraordinary, and all the more so as similar action was never taken with regard to a number of States that by overt act, if not by open declaration, had taken an equally non-conformist position. These are stronger expressions than any that Dr. Van Fleet uses, and they come with all the additional force of formal official opinions.

It is evident, then, since at last there has come to both parties the realization of the misconception that caused disunion, that we may look for a speedy reconciliation. The Medical Society of the State of New York deserves the most respectful consideration if it shows its willingness to enter the fold of the National Association from which, by an unfortunate misunderstanding rather than any clash of principles, it has been so long excluded.

Let us hope that the present movement toward reunion will result in the obliteration of a feud for which there has never been sufficient reason and that now in the course of time has become merely a heritage whose significance it is hard to realize fully, so obscured has the tradition of its origin become.

THE PATHOLOGICAL INSTITUTE.

THE clouds of disagreement regarding the director of the New York Pathological Institute for the Insane have finally rolled away and the State Lunacy Commission announce the appointment of Dr. Adolf Meyer as Director.

We heartily commend this action and feel that a man has been found who will be able to carry out the ideal program planned for this work by the founders of the Pathological Institute; and we confidently hope that American psychiatry will be enriched by the efforts of the Empire State.

ECHOES AND NEWS.

NEW YORK.

Appointment of Dr. Weyman.—Dr. M. B. Weyman, of New York City, has been appointed first assistant physician at the Manhattan State Hospital, at a salary of $2,000.

Columbia University Appointments.—It is reported that Dr. William K. Draper (P. & S., 1888) is to be appointed instructor in medicine at Bellevue Hospital for the medical faculty of the College of Physicians and Surgeons, and that Dr. A. M. Shrady (P. & S., 1893) is to obtain the position of instructor in physical diagnosis made vacant by the appointment of Dr. Draper.

New York County Medical Society.—A stated meeting will be held Monday, December 23d, with the following interesting program: Papers by Dr. Joel E. Goldthwait of Boston on Osteo-myelitis, Dr. R. Taylor of Baltimore on Its Clinical Aspect, Symptoms and Differential Diagnosis; Dr. H. A. Wilson of Philadelphia on Tuberculous, Rheumatic and Other Affections of Joints; Dr. A. M. Phelps of New York on The Mechanical and Operative Treatment of Such Joints.

Eastern Medical Society.—The Eastern Medical Society of New York City held its annual meeting December 14th. The following officers were elected for the ensuing year: President, Dr. A. Abrahams; First Vice-President, Dr. Joseph Barsky; Second Vice-President, Dr. E. K. Brown; Secretary, Dr. Maurice Fishberg; Treasurer, Dr. B. Gordon; Chairman of Ways and Means Committee, Dr. A. Hymanson; Chairman of Committee on Ethics, Dr. A. A. Himovitch; Trustees, Drs. A. Brothers and William S. Gottheil.

Columbia Registration.—The annual catalogue of Columbia University, which will be out next week, will show a registration of over 5,000 for the first time in the history of the college, exclusive of the 838 pupils in the experimental schools in Teachers' College. The total is 5,041 officers and students. Of this total over 800 are in the Medical Department.

Manhattan Dermatological Society.—On Friday evening, December 6th, the Manhattan Dermatological Society held a meeting at the rooms of the Medical Society of the Borough of The Bronx. The meeting was called to order by Dr. Wm. T. Gottheil.

Dr. E. S. Cocks showed a girl with *favus of the forearm.* This region showed a typical patch and the microscope corroborated the diagnosis.

Dr. Kinch presented a *mouse with favus* of the ears, forehead and back. Its occurrence in domestic animals and the transmission to human beings was discussed at length. In answer to several questions, Dr. L. Weiss gave the differential diagnosis between favus and ringworm.

Dr. Gottheil presented a classical case of *favus capitis,* showing the affection in its various stages and the results of the destructive process. Dr. E. L. Cocks said that in the treatment of favus attention must be given to exclusion and separation of the patients, to epilation, and antiparasiticides. Dr. Abrahams lauded

carbolic acid and Dr. J. Sobel had seen good results from formalin, properly diluted and carefully applied.

Dr. R. Abrahams showed a woman with *syphilitic* ulcerations of both legs, the result of broken down gummata. Antisyphilitic treatment caused marked improvement. The treatment of ulcerations in general was given by Drs. Abrahams, Kinch and Sobel.

Dr. Oberndorfer presented a case of *confluent psoriasis* and another of *seborrheal eczema*. The points of distinction were carefully considered.

Dr. J. Sobel presented a case of *erythema multiforme* involving the face, trunk and arms. Abdominal pain preceded the outbreak. Dr. L. Weiss showed a case of *lues* with a precocious tertiary stage and a case of *lichen planus*. Dr. Gottheil presented for Dr. Pisko a typical case of *lichen planus*. Dr. B. Ochs presented a man with *lupus erythematosus* on the right side of the face and scalp. Dr. Gottheil showed a case of *aggravated scabies*. Dr. Geyser presented two cases of *lupus vulgaris*, one of which was cured by the X-ray, the other being under treatment. Dr. Gottheil showed a case of *urticaria vesiculosa*. The uses and advantages of ichthyol in dermatology were discussed by Drs. Weiss, Abrahams and Sobel.

Member of Lunacy Commission.—It is said that Governor Odell has asked Mr. Daniel M. Lockwood to accept an appointment as the legal member of the State Commission in Lunacy, to fill the vacancy caused on July 1st last, by the resignation of William Church Osborne of New York City.

New York County Medical Association.—At the December meeting of the Association, held on Monday evening last, two matters of general interest were decided at the executive session. The question of medical reunion in New York State, as brought up by the appointment of a committee of the Medical Society of the County of New York, was treated in a report from the Executive Committee and the question of association medical defense in suits for alleged malpractice was taken up in a practical way.

The Executive Committee reported the receipt of an invitation for the appointment of a committee to confer with a similar committee from the Medical Society of the County of New York with a view to bringing the present discussion in the New York profession to an end. As the New York County Medical Association is entirely dependent on the New York State Medical Association, it cannot act in the matter. The Executive Committee suggests that the New York Medical Society present to the State Society the advisability of appointing a committee to confer with a similar committee from the State Association. The New York County Medical Association is eminently desirous of medical harmony and will use its influence with the State Association for the accomplishment of union. This report was adopted by the Association.

The Committee on Medical Defense reported that they had arranged the details of the method by which the New York County Medical Association can assume the legal defense of members for alleged malpractice. This will consist only in an extension of the legal arrangements by which violators of the laws for the regulation of medical matters are brought to justice. The fixed sum of $1,500 per year is to be paid to the Medical Association counsel and he is to assume the defense of members in all suits as far as the Court of Appeals. On motion this scheme of medical defence as outlined by the Committee was adopted provisionally until the New York State Medical Association shall have made definite arrangements for the defence of its members throughout the State.

Director of Pathological Institute.—The reorganization of the Pathological Institute of the New York State Hospitals, made necessary by the resignation of the former director, Dr. Ira Van Gieson, early last summer, has been proceeding slowly. As there are probably but three or four men in the United States capable of fulfilling in the highest degree the duties of such a position, the Commission in Lunacy, consisting of Dr. Frederick Peterson of New York, President, and Hon. Wm. L. Parkhurst of Canandaigua, have been looking over the ground for months with the view of selecting one worthy of being a successor to Dr. Van Gieson. The Civil Service Commission, after an examination of prospective candidates held December 7th, have certified to the eligibility of Dr. Adolf Meyer of the State Hospital and Clark University, Worcester, Mass., and he has been appointed by the Lunacy Commission to fill the position of Director of the Institute.

Dr. Adolf Meyer was born in 1866 at Zurich, Switzerland. A graduate of the Zurich Gymnasium, he studied medicine at the University of Zurich from 1885 to 1890 under the guidance of Professors Klebs, Forel, etc. During a year of post-graduate studies in Paris, Edinburg and London, he devoted his attention more and more to neurology, and on his return to Zurich he worked in the laboratory and clinic of Professor Forel, and, in 1892 he published a study on the "Forebrain of Reptiles." After a sojourn in Vienna, Berlin, and another month with Professor Dejerine in Paris, he went to Chicago, and from 1893 to 1895 he was pathologist at the Illinois Eastern Hospital for the Insane and Docent in Neurology at the University of Chicago, until he was called to Worcester, Mass., as director of the clinical work and laboratory of the Worcester Insane Hospital and Docent in Psychiatry at Clark University. In 1896 he made an extensive study of insanity in Europe, especially under Professor Kraepelin at Heidelberg, and since then he has carried out the plan of combining scientific laboratory research with the practical clinical work of a large hospital for the insane at Worcester.

The most important of his later publications are: "A Critical Review of the Data of Neurology" in the Jour. of Com. Neurology, Vol. VIII., Parts 3 and 4, and a study of a new form of degenerations in the central nervous system, published in Brain, 1901.

In June, 1901, at the 450th anniversary of the University of Glasgow, the degree of LL.D. was conferred on him as delegate of Clark University.

The scientific and clinical work of the reorganized Institute will be begun as soon as possible in a building connected with the Manhattan State Hospital for the Insane on Ward's Island. The scheme of investigation and research will be developed along lines to be formulated by Dr. Meyer in association with the Advisory Board of the Pathological Institute appointed not long ago by the Commission in Lunacy. This Board consists of Prof. Cattell, Department of Psychology, Columbia University; Prof. Ewing, Department of Pathology, Cornell University; Prof. Herter, Department of Pathological Chemistry, University and Bellevue Medical College; H. C. Bumpus, Department of Biology, American Museum of Natural History; Prof. Hun, Department of Nervous Diseases, Albany Medical College; Dr. C. W. Pilgrim, Superintendent Hudson River State Hospital for the Insane, Poughkeepsie; Dr. A. E. Macdonald, Superintendent State Hospital for the Insane, Ward's Island; Dr. Frederick Peterson, President of the Lunacy Commission *ex officio*.

It is felt that with a new director of the attainments

of Dr. Meyer both in pathology and in experience among the insane, and with an Advisory Board constituted of such men as are those just named, the plan of work of the Institute will be organized on a basis which should be satisfactory to the medical profession, to the physicians in the State asylums for the insane, the various universities of the State, to scientists in general, and last, but not least, to the taxpayers who support the Institute, and who deserve to expect from it results that shall be of practical value in the care, treatment and cure of the insane. Dr. Meyer is to be left free to select his assistants in the various departments of the laboratory work, but will be assisted in this selection by the Advisory Board.

PHILADELPHIA.

Smallpox in Philadelphia.—The week ending December 12th showed another large increase in smallpox cases, the number being 125, with 8 deaths. The Auxiliary Vaccine Corps organized by the Director of Public Safety has vaccinated about 11,000 persons. As a rule the physicians have been received gladly, the people being willing to be vaccinated. The work will be continued until the entire city has been covered. Dr. Alfred P. Gray of Frankford has lately developed smallpox, he being the second physician in the city to contract the disease.

Penny Bath-House to Be Erected.—The Public Bath Association of this city will erect at 718 Wood Street a thoroughly modern bathing establishment to be conducted for the poorer classes of people. It will be operated on the principle of London establishments, an admission fee of one cent being required from each bather. The structure will be equipped with massage, electric and needle baths, plunge and shower baths, and a sixty-foot swimming pool. The success of this establishment will mean the erection of others of the same style throughout the city.

Death of Dr. Leake.—Dr. Ephraim F. Leake, of Frankford, died December 13th at the age of eighty years, being one of the oldest of the graduates of the University of Pennsylvania at that time. He took an active interest in politics and because of his efforts in favor of reducing trolley rates he was called "The father of five-cent fares." He was in active practice until two weeks before his death.

Enlargement of the American Journal of the Medical Sciences.—With the coming of the New Year, that Nestor of medical journalism, The American Journal of the Medical Sciences, announces an increase in the number of its pages. Sixty-four pages will be added to each issue, all of which will be devoted to the accommodation of original articles. The total of 192 text pages in each number makes it not only the largest of monthly medical periodicals, but also enables it continuously to cover special fields which perforce have heretofore received intermittent attention. The peculiar advantages enjoyed by The American Journal as the organ of the best class of the profession insures to its pages the qualities of authority and interest. It is an honor to American medicine, and we wish it a continuation of its long and successful career.

Sweeping Vaccination Order by University.—A regulation just adopted by the University of Pennsylvania is as follows: "From and after December 24, 1901, every student and every member of the teaching body in all departments of the University and every employee shall exhibit satisfactory evidence to the Dean of the department that he or she has been successfully vaccinated within five years or is incapable of successful vaccination, and that any person failing to comply with this requirement shall be excluded from attendance at any of the lectures, studies, laboratories, or other departments of the University." Physician's certificates must be filed with the Dean.

Ichthyol in Tuberculosis.—At the County Medical Society, December 11th, Dr. Charles T. Spangler of Kane, Pa., read a paper extolling the use of ichthyol in pulmonary tuberculosis. Kane is a well patronized climatic resort, but Dr. Spangler's experience has led him to believe that the people who improve under climatic treatment alone are only a favored few who would improve under any favorable condition or change. As an adjunct he has found that ichthyol yields admirable results. The odor, taste, and eructations can be to a great extent avoided by giving the drug in capsules. If eructations persist, give the remedy only after breakfast and at bedtime. An elastic method of administration must be followed. After the first week of its use the patient's cough lessens and the sputum loses much of its density. Further use causes continued improvement. The drug is of little value in the acute complications of consumption and should be suspended at such times. In cases where obstinate cough or inflammation of the upper air-passages follows influenza, etc., the patient should be put on ichthyol at once instead of delaying its use until tuberculosis is marked. Dr. Spangler reported a number of cases to substantiate his claims regarding the use of ichthyol.

Camden Physicians Favor Home for Incurables.—The Camden County Medical Society at a recent meeting adopted the following: *"Resolved,* That this Society recommend the enactment of a law providing for the establishment of a sanatorium, under State supervision, for the treatment of incipient cases of tuberculosis, which shall afford the best facilities for the personal care of the subject and the cure of the disease.

Scholarship in Rockefeller Institute Awarded.—Scholarships in the Rockefeller Institute for Medical Research have been awarded to four students from the University of Pennsylvania. Three are from the Pathological Laboratory—C. M. Duval, E. B. Vedder, and Dr. F. P. Gray—and one, Dr. G. H. Gildersleeve, from the Hygienic Laboratory.

Experiments on the Formation of Bile Pigments and Bile Acids.—Dr. A. C. Croftan, holder of the Woodward Fellowship in Physiological Chemistry in the Pepper Laboratory, gave at the Pathological Society, December 12th, the results of some experiments regarding the formation of bile acids. He stated that there is sufficient proof to demonstrate that the formation of bile and bile acid is the product of hepatic cells. He is clearly of the opinion that these materials are the products of a ferment and that they may be formed outside the body by the use of a ferment. This ferment has such composition that it cannot by any known means be differentiated from trypsin. If a solution of hemoglobin to which sugar and a liver lobule are added be placed in an incubator at body temperature for one week the fluid becomes clear and a brownish precipitate forms. This precipitate contains bile and the supernatant fluid contains bile acids. Now, if trypsin be substituted for the liver lobule in the above experiment, exactly the same changes take place. Dr. Croftan claims that trypsin reaches the liver from the pancreas by means of the circulation. Trypsin is found in muscle and in the kidney and has also been demonstrated in white blood-cells. Since hemoglobin, dextrose and trypsin are present in various organs, the claim is made that the liver is not the only seat of bile and bile acid production. The

relation of the formation of bile and bile acids to the removal of the pancreas and diabetes was then discussed. If the formation of these products depends upon the presence of trypsin, this, with the known fact that removal of the pancreas causes diabetes, explains the latter. When trypsin is not produced there is no ferment to destroy the dextrose of the tissues and that material is eliminated by the kidneys. Dr. Croftan has also discovered very recently that the suprarenal gland also contains a diastatic ferment.

Somnolence Caused by Middle-Ear Disease.—Dr. W. G. B. Harland recently reported at the County Medical Society a case of somnolence apparently due to a middle-ear condition. The patient was a boy of fourteen in whom somnolence was almost continuous, he not being able to run errands or to attend to any work. Treatment in a medical dispensary had been futile. A small amount of cerumen was found impacted in the left ear. Removal of this was followed by the discharge of a few drops of pus and revealed a large perforation of the drum. In three weeks the boy was well. After three months another slight attack occurred, but soon disappeared when the ear was cleaned. The boy, in all other particulars was absolutely normal. This, with the result of treatment, seemed to prove conclusively that the ear condition was the cause of the unusual degree of somnolence. It is supposed that pressure was the immediate cause of the symptom.

CHICAGO.

Chicago Lying-In Hospital.—The annual meeting of the Board of Directors of the Chicago Lying-In Hospital and Dispensary was held two days ago. It was decided to broaden the scope of the work, and to this end the Board of Directors was increased to nine members, the Woman's Board increased to twenty-seven, and the Medical Board arranged so that its members are to be chosen from the three best known of the Chicago medical colleges. The Board of Directors is to be chosen so as to have three members from each side of the city. They are to be divided into three groups and each group is to serve three years. The physicians who are to have charge of the medical affairs are Dr. Joseph B. De Lee of the Northwestern University Medical School; Dr. Frank B. Earle of the College of Physicians and Surgeons, and Dr. J. Clarence Webster of Rush Medical College.

Spread of Smallpox.—The State Board of Health reports smallpox spreading in Illinois, especially in the central and southern parts, where in two or three localities the public schools have been closed in consequence. In Chicago there have been six cases of the disease since the early part of October, after an interval of entire freedom from August 12th. Of these there were three in one family contracted from a man who had been in contact with smallpox cases at Rochester, Ill. The remaining three were imported cases, and no one of the six had never been vaccinated, although one of the Chicago cases was in attendance at the Parkside School on a fraudulent certificate of vaccination signed by a physician. The details of these cases again emphasize the lesson that no efficiently vaccinated person need fear smallpox, and that none other is safe while the disease is present in the country.

Scarcity of Physicians to Fill Positions Owing to Small Salaries.—Difficulty is being experienced by the County Civil Service Commission in securing candidates for positions as physicians at the County institutions. Although notices of an examination to be held December 16th have been posted for three weeks, the responses are coming in with unusual slowness, and it is possible that the examination will again be postponed. The report of the special committee that is reorganizing the Dunning institutions, it is expected, will provide for ten or twelve new positions. To fill this list only six physicians have so far announced their intention of entering the examination. In order to secure an adequate eligible list, it is urged that the County Board take steps to make service on the medical staffs of the institutions more popular by raising the salaries. At present physicians at Dunning receive salaries in some instances as low as $60.00 a month.

Chicago, Milwaukee and St. Paul Railroad Surgical Association.—The ninth annual meeting of this Association was held in this city at the Great Northern Hotel, December 12th and 13th. The following papers were read and discussed: Injuries of the Ankle Joint, by Dr. W. N. Kendrick, Austin, Minn.; Fracture of the Patella, by Dr. Hugo Philler, Waukesha, Wis.; A Case of Abdominal Disease, with Post-Mortem Specimen, by Dr. B. F. Dodson, Berlin, Wis.; Amputation in Railway Practice, by Dr. H. B. Hemingway, Evanston, Ill.; Fracture of the Femur, by Dr. P. J. Adair, Anamosa, Iowa; Observations of Various Means of Bone Fixation, by Dr. D. S. Fairchild, Clinton, Iowa; Management of Severe Burns, by Dr. Allen Staples, Dubuque, Iowa; Plastic Surgery of the Face and Eyes, by Dr. C. D. Wescott, Chicago, Ill.; Some Nervous Phenomena Following Accidents, by Dr. S. A. Spilman, Ottumwa, Iowa; Postmortem, Antemortem, and a Celebrated Case, by Dr. H. H. Clark, Mount Gregor, Iowa; Thermic Trauma, by Dr. E. O. Plumbe, Rock Valley, Iowa. There were over one hundred physicians in attendance at the meeting.

The Conservative Treatment of Appendicitis and Fallacy of the Starvation Cure.—At a meeting of the Chicago Medical Society, held December 11th, Dr. J. Henry Carstens of Detroit, Mich., read a paper, by invitation, on this subject. After citing his observations in relation to this disease, he summed up by saying that the conservative treatment of this disease consists in prompt operation, and that the starvation method of procrastination is vicious and has cost many lives, because it is used as an excuse to dally with patients that should be promptly subjected to the removal of the organ. A spirited and lengthy discussion followed the reading of this paper. The radicalists were Drs. John B. Murphy, Alexander Hugh Ferguson, and the author of the paper. Others, who participated in the discussion, and whose views were more conservative in tone, were Drs. Christian Fenger, Arthur Dean Bevan, L. L. McArthur, A. I. Bouffleur, D. W. Graham, and others.

More Room at Dunning.—Immediate changes to afford room for 200 additional patients at the Dunning institutions will result from the investigation of the special advisory commission. One-half of the consumptive hospital will be fitted up for insane patients to accommodate those who now are sleeping on the floors of the old hospital. The large dance-hall is to be turned into a dormitory, while the maternity hospital is to be converted into a ward for children at the poorhouse. Dr. Frank Billings and Dr. Hugh T. Patrick were appointed to conduct the professional reorganization of the institutions, while Dr. Billings and Mr. E. P. Bicknell will decide on the style of new buildings.

Traffic in Dead Bodies.—Trafficking in cadavers will be investigated by the Grand Jury. The attorney for the State Board of Health, Mr. Shaw, who, with Dr. M. O. Heckard, Registrar of Vital Statistics in

the City Health Department, attempted to have the subject inquired into by the November Grand Jury, but coming with their complaints late in the session, the matter was dropped until the December Grand Jury was called. Chief among the complaints is the attempted shipment from the State on November 6th of 8½ cadavers under the title of "Second-hand laundry machinery." The consignment was to one "J. R. Jones, Brashear, Mo." Dr. F. Schoenliber, connected with the Harvey Medical College, was charged with the violation of the statutes, and was arrested. Justice Hall dismissed the charge for lack of evidence. Attorney Shaw was not satisfied with this. Mr. Shaw has, it is said, received information concerning trafficking in cadavers by undertakers in the outskirts of the city to points outside the State. These complaints he will ask to have investigated.

GENERAL.

Leprosy in the Hawaiian Islands.—Five years ago there were 1,300 lepers in Molokai. Now there are only 900, and Superintendent Reynolds believes that leprosy is being slowly but surely eradicated from the Hawaiian Islands.

A New Biological Journal.—A new journal devoted to the statistical study of biological problems has just appeared, bearing the title Biometrica. Dr. C. B. Davenport of Chicago is the American editor.

Boston's Smallpox Epidemic.—Notwithstanding the efforts of the Health Department to control the disease, smallpox continues to rage in Boston. The report of the Health Department December 10th shows 12 new cases in twenty-four hours. This is a slight decrease from the day before, but an increase over the middle of last week, when such discouraging reports were made that doctors and health officials were led to believe the disease was on the wane. Another appeal has been issued to continue vaccination.

Study of Foods.—The united efforts of the profession should aid Professor Atwater and his associates at Wesleyan University, at Middletown, Conn., in the move just made to receive from Congress an increase of $10,000 in the annual appropriation for the development of the study of food and nutrition. This will make the appropriation $30,000. The extra money will be used for the extension of the work along several lines, among them being dietaries of farmers and rural and urban wage-workers, including those in the South; studies with reference to the utilization of nutrition; investigations in public institutions, and studies in food supply of people in the tropics, with special reference to the new national possessions. The variety of the investigations has to do with kinds, amounts and costs of food actually bought and sold by members of families of mechanics, farmers and professional men, people in the slums of New York and Chicago, negroes and the so-called "poor whites" of Virginia, Alabama and Tennessee, native Mexicans and half-breeds in New Mexico, and Chinese in California. The investigation would be extended to others if they could be found or reached, but it now touches a greater number of persons than any series of experiments on any scientific subject ever before carried on in America or in any other country and is worthy of support.

Boer Death-Rate High.—A bluebook was issued by the Colonial Office December 14th, containing a detailed return of the deaths of Boers in the concentration camps in South Africa in the months of October and November and also during the six months from June to November inclusive. The deaths of whites in the six months numbered 12,441, including 10,113 children. The death-rate per 1,000 per annum for the entire mortality in all the camps increased from 109 in June to 338 in October, and sank to 284 in November. The death-rate per 1,000 per annum for children in the month of September was 433, in October 572 and in November 469.

Aseptic Barber-Shops.—The Board of Health of San Francisco has, according to The Sun, adopted a code of rules for the sanitary regulation of that city's barber-shops and the rules are strict enough to make the New York barber gasp. Inspectors have been appointed to visit the shops and report violations of any of the regulations. First of all, the sponge has to go in the San Francisco barber-shop. The use of the sponge is absolutely prohibited. The powder-puff goes with the sponge. Barbers are required to apply powder to customers' faces with clean towels or absorbent cotton. That a separate clean towel must be used on every person, under the rules, almost goes without saying after that. That, however, is only the beginning of sanitary discipline. "Sanitary hair-brushes" must be used and sterilized by immersion in boiling water or a weak solution of formalin, and the same with shaving-mugs and brushes after every separate use. Razors must be wiped with 95-per-cent. alcohol before and after use on any person. Needles, tweezers, forceps and other instruments must be disinfected in boiling water or 3- or 5-per-cent. formalin solution immediately after using and thoroughly dried by passing quickly through a gas or alcohol flame. Scissors and clippers must be treated likewise. Floors must not be swept but mopped up with a solution of corrosive sublimate. As to the barbers themselves they must keep their nails short and clean, under penalty of a fine. They must not breathe on the razor strops nor wipe them off with the hand. They must wash their hands "thoroughly" immediately after serving each customer and must not blow loose hairs away with their breath.

Bad Quinine in the Philippines.—In its issue of last week the Oil, Paint and Drug Reporter contains a statement from its Washington correspondent that trouble occurred nearly two years ago in regard to a shipment of quinine to the Philippines. In the summer of 1898 the Surgeon-General's office undertook to obtain a large quantity of drugs on short notice for use in the Philippines. Included in this order were 12,500 bottles of two-grain quinine tablets (500 tablets to the bottle). Soon after this consignment, which was furnished by a San Francisco house, reached the Philippines there was complaint that the tablets were adulterated. An investigation was made and as a result 12,227 of the 12,500 bottles were sent back to the contractors. The contractors represented that any adulteration which might be found in the tablets was due to no fault of theirs and they complied with the requirement of the department that they substitute for the rejected tablets others of standard purity.

North Texas Medical Association.—The last regular meeting of this Association met at Greenville, Tex., December 10th, 11th and 12th, under the presidency of Dr. R. F. Miller. The following interesting program was given: Report of the Chairman—Some Observations on the Continued Fevers of North Texas, by R. W. Baird, Dallas; Typhoid Fever—Report of Two Cases, by Will Cantrell, Wolfe City; Treatment of Typhoid Fever, by C. M. Grigsby, Kaufman; Tubercular Nodules of the Bowels, by J. D. Burt, Farmersville; Dermatitis Medicamentosa, with Report of Case, by J. B. Shelmire, Dallas; Symptoms and Treatment of Invasion of Nasal Cavity by the Texas Screw-worm, Report of Three Cases, by H. A. Burrows, New Bos-

ton; Incubation for Laryngeal Diphtheria, by J. W. Bourland, Dallas; Functional Neuroses of the Menopause, Report of a Case, by A. B. Small, Waxahachie; Adenoids and Their Complications, by E. H. Carey, Dallas; Subject Unannounced, by J. H. Erwin, Kaufman; Lobar Pneumonia, by T. R. Black, Blossom; The Pupil and Visual Field in Cerebral Diseases, by S. L. Terrell, Dallas; Surgical Tuberculosis, by L. P. McCuistian, Paris; The Present Treatment of the Hypertrophied Prostate Gland, by J. T. Wilson, Sherman; The Eye Symptoms in Fractures of the Skull, by Jno. O. McReynolds, Dallas; A Case of Cerebellar Tumor, by B. E. Hadra, Dallas; Injuries of the Spine, by Le Roy Long, Caddo, I. T.; Thoracotomy, by J. C. Carleton, Bonham; Extravasation of Urine Following Traumatism of the Urethra, by R. R. Walker, Paris; Traumatic Empyema, by J. E. Dodson, Vernon; Report of a Case, by T. L. Barnett, Midlothian; Report of a Case of Congenital Cerebral Syphilis in a Child Ten Years Old, by G. W. Foscue, Waco; Report of Surgical Cases, by S. E. Milliken, Dallas; Management of Normal Labor, by J. C. Carlton, Bonham; Uterine Misplacement, by A. H. Lindsay, Paris; Mastitis, Cause and Treatment, by Ellen L. Dabbs, Fort Worth; Report of a Case of Uterine Fibroids Treated with Thyroid Extract, Recovery, by Jas. T. Jelks, Hot Springs; Curette in Gynecology, by J. F. Curry, Rockwall; Manual Manipulation as an Aid to Parturition, by C. A. Gray, Bonham; Endometritis, by O. C. Buster, Pilot Point; Abortion, by W. H. Lively, Dallas; Proper Examination of Women in Diseases Peculiar to Them, by Dr. Wm. H. Baldridge, Wylie; Abortion, by W. N. Lemon, Commerce; Tait-Schroeder vs. Emmet Operation, by Joe Becton, Greenville.

Births and Deaths in France.—For those who claim that nothing good can come out of France, the recent statistics of births and deaths will prove of satisfaction. In 1899 the excess of births over deaths was 31,394, giving the hope that France was slowly rebuilding up its population, but in 1900, on the contrary, there was an excess of 25,988 deaths over births. In only two Departments, the Seine Inférieure and the Cantal, the excess of births over deaths in 1900 was greater than in 1899. In thirty other Departments the number of births in 1900 was greater than that of deaths, but that excess of births was inferior to that of 1899. On the other hand, in 55 Departments the number of deaths in 1900 was larger than during the preceding year; whereas, in 1899 that increased mortality existed in only 43 Departments. If the number of births diminished, the number of marriages increased by 3,332 in 1900. Divorces were less numerous. Examining the births, the report notes that there were only 73,121 illegitimate children born in France in 1900, and that 19,141, or almost one-third of them, were born in Paris. The statistics, not only of 1900, but of previous years, show that in France 21 male children are born to every 20 females. Nevertheless, the feminine population of France is a little larger. Men die earlier than women. Quoting the statistics of the last ten years, the correspondent of the *Temps* affirms that it is the legitimate unions which are productive of that happy majority of the birth of male children. Taking the average of the last ten years, the writer shows that of the annual offspring of those legitimate unions, 398,354 were males and only 381,030 females. This predominance of the male sex is, according to the *Temps* correspondent, who has studied the statistics for many years, so constant as to be a sort of law. However, the predominance of the male sex in the offspring of illegal unions is much less marked. In this category it is interesting to note that the figures show the average for the last ten years is 37,674 males and 36,817 females.

Changes in the Medical Corps of the Navy.—For the week ending December 14th: H. H. Hass, Past Assistant Surgeon, detached from Norfolk Navy Yard, and ordered to the "Kearsarge" for duty with the marine detachment; F. M. Furlong, Assistant Surgeon, when detached from New York Hospital, ordered home on sick leave for two months; P. E. McDonnold, Assistant Surgeon, detached from the "Constellation," when discharged from Naval Hospital, New York, and ordered home with one month's sick-leave; W. M. Garton, Assistant Surgeon, detached from the Naval Academy and ordered to the Naval Hospital, New York; J. B. Dennis, Assistant Surgeon, detached from the Naval Hospital, New York, and ordered to the Naval Academy, upon reporting of relief; J. B. Buchanan, Assistant Surgeon, ordered to the "Columbia"; N. H. Drake, Surgeon, ordered to the "Philadelphia"; J. Cowan, Pharmacist, detached from the Boston Navy Yard, ordered home to wait orders.

Obituary.—Dr. Edward H. Bemis of Glens Falls died on Monday last from a stroke of apoplexy.

Dr. Leslie M. Sweetman, a well-known surgeon of Toronto, Canada, died December 11th in the Johns Hopkins Hospital of blood-poisoning. Several weeks ago, while cleaning his hands after an operation in the hospital of the University of Toronto, he received a small puncture in one of the fingers of his right hand from the nail-brush he was using.

Dr. F. A. Utter died suddenly on December 10th at 103 West 71st Street, in the sixty-first year of his age. Dr. Utter was well known on the West Side and was a member of the Grand Army and of the New York County Medical Society.

Dr. Rush S. Huidekoper died December 15th from a complication of diseases said to have been contracted during the Spanish-American War, in which he served. Dr. Huidekoper was United States Commissioner General to the exposition at Hamburg in 1883, and in 1893 was appointed chief surgeon in the army with the rank of lieutenant-colonel. He was forty-seven years of age. Dr. Huidekoper was born in Meadville, Pa., and was educated at Phillips Academy, Exeter, and at the University of Pennsylvania, where he was graduated in medicine in 1877. Later he studied at the National Veterinary School at Alfort, France, and in the laboratories of Virchow, Koch, Pasteur, and Chauveau. Later he was connected with the University of Pennsylvania and the New York College of Veterinary Surgery as professor of internal pathology and contagious diseases. For many years he occupied high medical positions in the Pennsylvania National Guard. His appointment as Chief Sanitary Inspector of the military camp at Chattanooga after the Spanish war excited much adverse comment, and he resigned. He published several works on animals and was editor of the *Journal of Comparative Medicine and Veterinary Archives.*

BYWAYS OF MEDICAL LITERATURE.

PATHOLOGY IN FICTION.

IN recent years the introduction of pathology into fiction has come to be quite the fashion. Distinctly medical ideas that are usually not discussed in any but exclusively medical circles sometimes receive thorough ventilation before the public in this way. The late Grant Allen, under one or other of the aliases he used to assume in order to conceal the amount of writing he was doing, found a very interesting field in certain

problems in psychiatry and especially in the department of criminology. Usually when the medical topic introduced into a novel is especially risky, the writer is likely to be a woman. It was Mme. Sarah Grand, in "The Heavenly Twins," who gave the dear non-medical public that delicious pathological morsel in the description of a syphilitic infant as "a little old man with a cold in his head." Another successful woman novelist has just attempted quite as forbidding a subject. Her novel has been hailed as the book of the year and is actually one of the best selling of the moment. The novel is "Sir Richard Calmady," the author's name, Lucas Malet, being the pseudonym for Mrs. Mary St. Leger Harrison, the daughter of the late Charles Kingsley, the clergyman novelist and poet so well known a generation ago in England. As her father occupied himself toward the end of his life mainly with "social" subjects, perhaps the daughter's choice of theme should not be a matter for surprise.

The first part of "Sir Richard Calmady" introduces a telling incident that depends for its interest on the supposed influence of maternal impressions. Young Sir Richard Calmady and his wife have been married but two or three months when the husband is brought home one day with both his legs badly crushed. Amputation is required. Needless to say the young wife is intensely disturbed by the sad accident and by the consequent death of her husband. The scene in which he is brought in maimed is indelibly impressed upon her. A baby boy is born some six months later and, although the upper part of his body is well formed and beautiful, the lower part is horribly maimed as though the legs had had been cut off above the knee. At first the mother is not told of this deformity. Then it is broken to her gently and shortly after in a powerful scene the author describes her maternal feelings as she unwraps her baby boy. The boy is brought up so carefully as almost not to realize his difference from other children. Late on in life he falls in love with a handsome young woman. At first she accepts him, but the realization of all his deformity turns her from him and she refuses him.

Then in a series of chapters in a section of the book called the "Rake's Progress," the authoress brings out forcefully that extreme medical problem as to the sexual feelings of the deformed in the lurid light of the physical aversion that their deformity occasions in those who are capable of arousing their passion. The deformed Sir Richard Calmady goes to Naples, where not far from the scene of the orgies of the Roman Emperor Tiberius the passionate part of the cripple's life works itself out. His ultimate salvation is an attack of typhoid fever from which he is nursed by the proper person and returns to England to marry her and live happy ever after.

The problems involved in the book are undoubtedly of intense interest and are very close to the heart of Nature. The question of sexual feeling in the deformed has been the source of serious thoughts for many a medical man. It seems scarcely proper, however, to present such problems in detail to the general public. "Sir Richard Calmady," for all its truth to Nature and its excitation of sympathy for deformity, is apt to do more harm than good. Pathology has scarcely a place in fiction, and should as a rule be excluded.

LITERARY PATHOLOGY.

Another phase of pathology in literature (save the mark) is well represented by the following quotation from an article of Mr. Vance Thompson in the last number of the "The Philistine." The article has the very medical title "Red Corpuscles in Art." It begins thus: "The trouble with the arts to-day is that they are anemic. They are deficient in red corpuscles. This is true of the drama. It is true of music, painting, sculpture, poetry—all the arts. George Moore used to have a phrase for it. 'Art to-day,' he would say, 'lacks guts.' And so it does. Were I to use my own phrase, I should say that what we all lack is the Rabelaisian spirit." Later on occur the phrases: "Great art is always virile. The slim pallidities of Fra Angelico belong to a day of degenerate and monkish thought. Rubens' great blonde women are the solaces of the eternal fighting man. Read Rabelais, mes amis, and become Rabelaisian. Of such are the kingdom of art."

We fear that the good physician Rabelais, who in a rude time said rough things in a crude way, would not be overready to acknowledge his supposed disciples in this later generation who presume on vulgarity as an element of humor in defect of something better.

THE PLAGUE.

The last number of the *Quarterly Review* (London) contains a very informing article on the plague in which are reviewed seven recent books on the subject. Some of the information is startling enough. For instance, in Bombay alone in three years and a quarter 46,000 victims of the disease succumbed. In the whole Presidency, including the city, the plague mortality during the same period is reported as amounting to 252,000 persons. This gives a very good idea of the fearful ravages of the disease when the circumstances are favorable for its dissemination. On the other hand, how little liable the disease is to spread despite exposure under ordinary sanitary conditions may be gathered from the single case which occurred at Cardiff in Wales last year. The patient was a sailor and arrived at King's Lynn on a vessel carrying corn. When the unloading was finished two men were taken ill. One of them landed at South Shields, crossed England by rail to his home near Cardiff, was found to have plague and was removed to a hospital, where he died. This man was not infected when he left South America, as the voyage was much longer than any possible incubation period. He must have been inoculated while unloading the cargo, in which many dead rats were found. It is instructive to observe that in a long railway journey and during his illness at home this patient did not communicate the plague to any one, though he was brought ultimately in contact with very many persons before the recognition of his disease led to isolation.

A THERAPEUTIC BOOK.

The life of Robert Louis Stevenson by Graham Balfour would, it seems to us, be an excellent book to put into the hands of the discouraged consumptive making the fight for his life, finding the hours hang heavily and with no mental occupation to arouse and stimulate him to vitality. The courageous way in which Stevenson, during long years of fight with the malady that finally carried him off, nobly did his work and even laughed at his sometimes almost victorious conqueror, is one of the most inspiring things in the history of modern literature. When suffering from repeated hemorrhages he writes to an editor to say that he will have certain manuscripts ready if only "bluidy Jack," his pet name for recurrent hemorrhage, will let him. This is the very acme of bravery.

Several years before his death, he wrote to Mr. George Meredith, the English author, that for years he had not had a day's real health. "I have awakened sick and gone to bed weary and I have done my work unflinchingly. I have written in bed and written out of it, written in hemorrhages, written in sickness, writ-

ten torn by coughing, written when my head swam for weakness, and for long it seems to me I have won my wager and recovered my glove."

MEDICAL ARTISTIC TRUTH.

Most of our readers know "the boy and the geese" picture of the familiar patent medicine "ad." The story of it has just come out. We have heard of artists painting the portraits of newly-rich patrons so faithfully that the vulgarity of features was patent even to the sitter. At times, too, there has been a whisper of such conditions where the patron failed to see the conscious or unconscious' satire, but this beats all those. A distinguished American comic artist is said to have been asked to prepare a sketch for advertising purposes for the great cure-all. He drew the well-known set of figures, now so familiar to all New Yorkers, of the boy and the geese—the evident allusion to the sort of patrons the patent-medicine man hoped to have flock after him as he poured out his remedy before the public was lost on the advertiser. Now, in huge size, the boy and his geese following stare out from every important signboard. Only those who know the artist and the delicacy of his satire are "on to it" however, and we suppose the dear public flocks as anticipated after the remedy as it is poured out "for a consideration."

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, December 7, 1901.

DEATH OF SIR WILLIAM MACORMAC—AN EARLY PIONEER OF THE OPEN-AIR TREATMENT OF CONSUMPTION.

IT WAS with a shock that the medical world of London, and indeed of the United Kingdom, heard on December 4th of the sudden death of Sir William MacCormac. Only the day before he was sauntering about the streets, as was his custom not only of an afternoon, but of a morning, with a cigar in his mouth, a retriever at his heels, and the general appearance of a man who had nothing to do and did it very well. But to those who knew him as he was only two or three years ago, it was painfully clear that, like Falstaff, he had fallen away vilely. His trip to South Africa, though he did little in the way of work while he was there, seems to have laid the seeds of a dysentery of which he never quite got rid. He died at Bath, whither he had gone to take the waters. He was only sixty-five, which in these days of "grand old men" is the prime of life. The immediate cause of death seems to have been a heart seizure of some kind, but even before he went to Africa his constitution was undermined by a severe and prolonged attack of pleuropneumonia which nearly killed him a few years ago. He was a man of striking presence, standing some 6 feet 3 or 4 inches, as erect and as solid looking as a marble column. He was an imposing figure-head at professional "functions," and for this reason, among others, was five times elected president of the Royal College of Surgeons. He was secretary general of the International Medical Congress held here in 1881, and made a great impression on the foreigners present by the stateliness of his appearance. MacCormac was an Irishman by birth and education and at the outset of his career had no connection with any of the London hospitals or schools. This fact makes his rise to the position which he occupied at his death all the more remarkable, for it is by no means easy for an outsider to get a position on the staff of a London hospital of the first rank. MacCormac, however, somehow managed to get himself appointed assistant surgeon to St. Thomas's Hospital and he worked his way up steadily from the lowest rung in the professional ladder to the top. This is sufficient to prove that there must have been sterling worth and ability in the man. Yet, though not only popular but held in high esteem by his pupils, he was never taken very seriously by the profession. He was a good surgeon of the old school whose maxim was to cut through everything soft, saw through everything hard, and tie up anything that bled. But of scientific surgery in the modern sense he knew little and, I should imagine, cared less. He was in his proper element at a base hospital in a campaign; and it was his services as a volunteer surgeon in the Franco-German and Servian wars that first won for him the newspaper fame which he continued to enjoy till the end.

MacCormac was a favorite with the present King long before his accession and this brought his name prominently before the public. But he never had much practice, and this no doubt contributed to his popularity with his brethren of the knife. He had no enemies because he was not looked upon by any one as a rival. He was a genial Irishman, with perhaps less than his share of the wit with which his countrymen are credited; he was rich, having married an heiress; it was a runaway match, but it was a very happy one; he was a baronet and two knights rolled into one; he was happy in the possession of nearly all the orders, medals, crosses, stars, and ribbons, with which European monarchs decorate those whom they delight to honor. These things and the official honors freely bestowed on him by the College of Surgeons doubtless consoled him for the want of private patients. His official connection with the royal family made him popular in society and at public banquets; though his oratory was not inspiring, his conspicuous appearance shed a reflected dignity on the profession of which he was the accepted representative. Within the profession he was, as already hinted, a man of more *weight* than authority. But when the gaseous elements in his career have been allowed to evaporate, there will remain a solid residue of good work—not large in amount nor very precious in quality, but yet of distinct value. He discharged the onerous duties of surgeon to a great hospital and lecturer on surgery in a school largely resorted to by the graduates of our most famous universities with credit to himself and acknowledged benefit to his pupils. The mere possession of a fine presence could hardly have enabled him to do this. Nor is it every one who could write a book like his "Notes and Recollections of an Ambulance Surgeon" (during the Franco-German war), which has been translated into French, German, Dutch, Spanish, Italian, Russian and Japanese. MacCormac was a large-hearted man and to his friendly help not a few of the younger generation of St. Thomas men owe their success.

The death of Sir William MacCormac recalls the fact that his father, the late Dr. Henry MacCormac of Belfast, was an early pioneer of the "open-air" or, as it might more fitly be called, the rational treatment of consumption. As long ago as 1855 he published a book in which the policy of the open window and all the essential features of the modern treatment of tuberculosis were clearly set forth. Dr. MacCormac was an enthusiast and gave his life to the preaching of his sanitary gospel. The following passage from his book shows how fully he had grasped the vital truth to which the profession is only now being awakened. After stating that "a fresh, untainted, unprebreathed atmosphere, at all times and places, is the

one condition of treatment which nothing must interfere with or set aside," he goes on to say:

"The simple rule is to let the chamber atmosphere prove pure and untainted as is the open air itself, in which indeed the patient should otherwise spend as much time, in fact pause as much as his strength, the weather, the season and his means will permit. He must, in short, live in the open atmosphere, but then it must be the open atmosphere, and its wholesome influences coupled with, not thwarted by, house comforts and home shelter. The phthisical sufferer should spend as much time in the open air, in all seasons, as his strength and the weather will permit."

This, be it remembered, was written before Brehmer was heard of. Henry MacCormac went about as an apostle of his new doctrine to London, Edinburgh, Glasgow and other medical centers. But he was before his time and the mind of the profession was not ripe for his teachng. The general opinion of him seems to have been that much learning (he was a great linguist, philosopher and what not besides a physician) had made him mad. The reception he met with at the leading medical society of London, the Medical and Chirurgical, may be taken as a type of that which he got elsewhere. In 1862 he read before that body, which then as now represents all that is in an academic sense most "superior" in British medicine, a paper on "The True Nature and Absolute Preventibility of Tubercular Consumption." One learned Theban characterized the paper as a waste of time; while another protested that the Society should be protected against the reading of such productions! The end of the business was that the Society refused to pass the customary vote of thanks to the author. The incident, though amusing to the cynic, is painful to any one interested in the progress of the healing art. The history of medicine shows that it may almost be looked upon as a law of the evolution of medical thought that wisdom must cry out for years, sometimes for centuries, in the streets before any man regards it.

OUR PARIS LETTER.

(From Our Special Correspondent.)

NOVEMBER 29, 1901.

RESTAURANT FOR LATIN QUARTER STUDENTS—DISCUSSION ON SANITARY MATTERS AT THE ACADÉMIE DE MÉDECINE —PROFESSOR DEBOVE ELECTED DEAN OF THE PARIS FACULTY—OVERPRODUCTION OF WINE IN FRANCE—THE NEW PROFESSOR OF OPHTHALMOLOGY.

A NEW restaurant specially destined for students has been started in the Latin quarter. It is a well-known fact that consumption is quite rife amongst students, and it may be due in part to the insufficient food they get in the lower class of restaurants. No spirituous drinks will be allowed in this establishment, though moderate amounts of wine, beer and cider may be called for. Only subscribers are allowed. Twenty-five francs must be paid down in one sum or in monthly instalments. If there is a bonus at the end of the year it will be divided amongst the shareholders according to the number of meals they have ordered. The prices are more moderate than in the celebrated Duval restaurants. Moreover families sending their sons to Paris may pay in advance every month.

The recent case of bubonic plague on the "Sénégal," a steamer which had just left Marseilles, has brought about a good deal of discussion. According to a certain number of physicians who happened to be on board the "Sénégal," the disinfection which takes place at Frioul, the sanitary station of Marseilles, is carried out in a somewhat lax manner. It would seem that a boat, the second officer of which had died of the plague shortly after leaving Port Said, called at the Frioul recently and the passengers were only landed after eight days, given a bath and an approximate disinfection and landed in Marseilles the next day. There are so few drugs to be had in the pharmacy that when a patient has a severe hemorrhage it is found necessary to ask one of the ship doctors for a solution of ergot. Steamers calling at infected ports are not obliged to have serum, or if they have solutions on board four out of six bottles may be in bad condition. Such are a few of the remarks made by physicians who happened to be on board the "Sénégal." At the Académie of Médecine Dr. Buequoy complained bitterly of the condition of the lazaretto, where there is only room for 120, whereas there happened to be 165 passengers on board the "Sénégal." He said that this steamer should have been more thoroughly examined, as there were found the bodies of rats that had died from the plague. There was no serum on board, which was undoubtedly the cause of the death which occurred. Dr. Proust answered Dr. Buequoy's criticisms. He remarked that it was not the fault of the sanitary service, which had given most explicit directions to its agents. At present the precautions carried out are even more rigorous, and if a case of bubonic plague is found the hold of the vessel is disinfected with sulphurous acid. As for a lack of serum on board ship, it is only steamers carrying immigrants that are obliged to take serum. As for the fact that the passengers were not landed, that was because it was thought that the trip might be continued in case the diagnosis of plague was not confirmed. Dr. Proust's speech was a complete justification of all that took place, but, as he is a medical inspector of high standing and one who had just made an inspection in that region, it is not to be wondered at if he supported the sanitary arrangements carried out in this case. Dr. Debove showed that the sanitary taxes brought in almost three times as much as was spent in this department. It is not a lack of money which prevents the carrying out of certain reforms. It was decided to appoint a commission which would see to the carrying out of the necessary reforms.

Dr. Debove has just been elected dean of the Faculty of Medicine. Professor Brouardel, who has served fifteen years in that capacity, sent in his resignation. Professor Pinard at first received the greatest number of votes, but not a sufficient number to be nominated. Then Dr. Debove, who had at first refused to be a candidate, accepted on certain conditions and was elected by a large majority.

The new law, by which the duties and taxes on wines and hygienic drinks were abolished, has not brought about the result which was expected. Neither the Government nor the hygienists are satisfied. It had been thought that by decreasing the price of wine the poorer classes of the population would drink less spirituous liquors. The tax on spirits has brought in less than usual, but this is perhaps due to the fact that the wine sellers had laid in a large stock of alcoholic beverages before the law took effect. As for the wine growers, they are complaining, though the amount of wine drunk has increased by 6,000,000 hectoliters. The trouble lies in the overproduction of wine, due to the recent establishment of vineyards producing a large quantity of inferior grades. The annual consumption of wine in France is about 42,000,000 hectoliters; 65,000,000 were produced in 1900, and 55,000,000 in 1901. This overproduction will continue for several years, and it is hard to say what can be done with this enormous quantity of wine.

Professor de Lapersonne, who has succeeded Panas

as professor of ophthalmology at the Hôtel Dieu, delivered his first lecture on November 10th. Dr. de Lapersonne was dean of the Faculty of Lille until he was given this position.

TRANSACTIONS OF FOREIGN SOCIETIES.

German.

BOTTINI'S OPERATION—VESICAL CALCULI—EXAMINATION OF THE KIDNEYS.

SCHLAGINTWEIT (Munich), at the Seventy-third Congress of German Naturalists and Physicians, held in Hamburg from September 22 to 28, 1901, read before the Section on Surgery a critique on Bottini's operation, founded on one hundred and fifty experiments and eighty-two preparations of prostatic hypertrophy, collected by Guyon in the Necker Hospital at Paris. He said in part that the early publication of the results aroused doubt as to the adequacy of the operation. This has lately changed, however, owing to the investigations of Freudenberg and others who have established a definite standard of comparison as to results. Cure is now understood to mean that no catheter is further necessary, that the urine passes in a free stream and that there is very little residual urine. Such cures occur in fifty to sixty per cent. of all cases. Improvement implies that there is no longer complete retention, less frequent and active urgency, less pain and more general good health. Twenty to thirty per cent. of the patients show improvement. The unimproved range between thirteen and eighteen per cent., the deaths between four and one-half and eight per cent. Permanent and to some degree satisfactory results occur in seventy-five per cent. of all cases. The contra-indications of the operation are severe nephritis, pyelitis, purulent cystitis and marasmus. Distention of the bladder is not an absolute contra-indication because muscular power soon returns after the operation. The accidents of the operation are bending of the red-hot blade from uncertain handling of the instrument, burning out of the blade and short-circuiting of the current. On account of the latter, the direct current with transformers must be used. The sequelæ of the operation are fever for a few days, especially with purulent inflammation of the urinary tract, secondary bleeding from the casting off of the scab as early as the fourth day and as late as the twentieth day, thromboses and pneumonia. In addition to a delicate handling of the instrument, care must be exercised with special reference to the immediate results, the depth of the narcosis, the possibility of a repetition of the operation and brief confinement to bed for from two to three days. In spite of all objections, von Frisch states that its results are so favorable that no other operation can be compared to the Bottini in treating prostatic hypertrophy. The operation has had comparatively little popularity among genito-urinary surgeons on account of its uncertainty, of the impossibility of knowing the basis of the ultimate success or failure, of the few autopsies recorded after it and of the lack of material, especially in Germany, for the study of good specimens of prostatic hypertrophy. The principle of the operation consists in burning V-shaped channels half an inch deep in the parenchyma of the gland, which after the shedding of the scab tend to deepen without any spreading. Secondary atrophy of the gland does not occur. The mechanical effect of the operation is the reason for believing that the whole matter of prostatic hypertrophy, with all its evil consequences, depends entirely upon a mechanical hindering of the outflow of the urine. The whole value of the operation depends upon the answer to this cardinal question, in which direction, in what number, to what length, and in what serial arrangement must the cuts be made in a given case? Most of the authors give commonplace rules on these points, but none which is universally available. The operator must, however, know the exact anatomical and topographical grounds upon which his cuts shall be based. The technic of the operation is very important. After the introduction of a stiff, straight instrument, like the early designs of Bottini, the gland is no longer normal; its position, condition, relation of the middle lobes, parenchyma and capsule are all changed on acount of the forceful stretching into a straight line of the deformed urethra by the shaft of the instrument. The degree of these changes depends, of course, upon that of the original pathological condition. The pathological arrangement of the gland must be carefully studied before the first or any of the subsequent cuts are made, so that the viscus shall be changed as little as possible. During the operation, therefore, the so-called "typical seizure" of the gland should be absolutely ignored. Cystoscopy should be brought in to determine and describe the features of the gland and the number and the length of the cuts and so far as possible their relation. A combined incision and cystoscopic instrument is too thick and its blade penetrates too little and too short a distance to give any guarantee of efficient work. Bleeding, moreover, is very apt to obscure the operative field and render the cystoscopy valueless. The writer's own method of proceeding is the following: The bladder is filled with sterilized air, explored with a bougie-à-boule, palpated through the rectum and inspected with the cystoscope. The internal orifice of the urethra is mapped out by the finger in the rectum and the exposed cold blade of the instrument. Great delicacy and care must be exercised at this point. The blade is not hooked into the gland, but simply brought down to the end of the urethra within reach of the finger. This mapping-out with the aid of the cystoscope is plotted on a chart which is before the surgeon during the operation. The manifest aid of such a chart needs no further discussion. All the old and new methods of determining the length, number, direction and relation of the cuts leave the following points still unsettled: (1) The length of the cuts in each direction; (2) the direction of the cuts posteriorly; (3) the direction of the cuts toward the side, which must not, of course, be below the horizontal plane of the gland; (4) it is impossible to determine the number of cuts, especially those to the front and to the side above the level of the horizontal plane in every case. Perhaps measuring the angles between the shaft of the instrument and the symphysis pubis and a study of the transverse section at different levels of hypertrophied prostates will permit this question to be settled within definite limits. The author closes with the dictum that beyond question this operation will in time be brought within the same definite limits of procedure as have been in the past and the present laid down for lithotripsy. The operation will then no longer be a surgical curiosity but a definite means of treatment.

ZUCKERKANDL (Vienna) gave his deductions from one hundred and fifty operations for stone in the bladder. Of these one hundred and nine were lithotripsies, one a perineal lithotripsy and thirty-seven suprapubic cystotomies. The mortality ranged from 3.06 per cent. for lithotripsy to 13.03 per cent. for cystotomy. Relapses were equally frequent in both methods. On account of the dangers of suprapublic cystotomy, clearly stated in literature, its prolonged after-treatment, and its many complications at the wound and even after the full healing of the wound, Zuckerkandl believes that it should be abandoned as far as possible. He also considers that perineal lithotripsy is a step forward and

should be substituted for suprapubic cystotomy in the majority of cases. The injury of the urethra in this operation, if skilfully limited, is rather an advantage, because it affords better drainage of the bladder. Lithotripsy is the operation of choice and, in fact, should always be done when the stone is not too large for the instrument to seize. In such a case the perineal method is indicated and also when the urethra is impassable to the straight instrument through prostatic hypertrophy, stricture or urethral calculi, and the completion of the lithotripsy is thereby rendered impossible or when large fragments remain and resist further crushing. Suprapubic cystotomy is applicable to stones which fill the whole bladder or which, on account of their large size, are pocketed in a diverticulum or in a deep fundus, to incapsulated stones, to stones in the ureters or at the junction of the ureter with the bladder, to stones about foreign bodies and for complications of stone and new growth of the bladder, and finally to the purpose of establishing a fistula.

CASPER (Berlin) stated the results of further investigation into the question of examination of the function of the kidney by the method proposed by Richter and himself. Richter's method consists, briefly, in collecting separately at the same time the urine from both kidneys and examining it. While albumin, renal elements, white and red blood-cells, casts, micro-organisms, etc., are indications of the anatomical condition of the kidneys, the functional power of each kidney can be determined by comparing the total amount of nitrogen excreted, of sugar artificially produced by the injection of phloridzin, and the freezing-point of the urine in each separate specimen. In health these three elements are alike on both sides. In disease they differ, the kidney which is the seat of the disease producing less of each. After numerous experiments he has arrived at the opinion that whenever we are treating cases of abdominal surgery, with difficult differential diagnoses, such examinations are both advisable and necessary.

POSSIBLE CURATIVE EFFECTS OF THE NEW ELEMENT RADIUM.

To the Editor of the MEDICAL NEWS:

DEAR SIR: A few days ago appeared in the papers an account of an Atlanta man who had been cured of a cancerous growth by the use of the cathode ray. Whether or not the curative effects of this method of treatment have been fully proved, it certainly is a fact that there has been considerable experimenting along this line, and, according to the reports of many of the experimenters, there has been in some cases at least, an encouraging amount of success.

It would be a matter of much interest if experiments of a similar kind could be carried on with the recently-discovered element radium. The properties of this element, as described in recent numbers of the *Comptes Rendus,* are so remarkable and are so similar to those of the cathode ray that it seems probable it could accomplish all that the latter could accomplish and, perhaps more. Moreover, the radium, if found effective, could be applied in a most convenient form. At the present time the new element is extremely rare and correspondingly costly; but, should the demand for it arise, it cannot be doubted that the supply would be found to increase.

Henri Becquerel, the eminent French physicist and discoverer of the peculiar rays that bear his name, describes the experience of himself and M. Curie, who has the honor of having discovered the new element. M. Curie allowed the rays ordinarily emitted by radium to pass through a sheet of gutta-percha and act on his skin for ten hours, the specimen of material used being comparatively impure. The skin soon reddened and presented all the appearances of a burn. At the end of several days the redness had very materially increased in intensity and the tissue broke away. It was about six weeks before healing had fairly started and ten days later the wound was still open.

Becquerel himself had an accidental experience of the same kind and one equally unpleasant. In transporting a few decigrams of a very pure radium chloride he placed the material in his vest pocket. The radium chloride was in a sealed glass tube and this was wrapped in paper and placed in a cardboard box. It was on the 3d and 4th of April that he carried the material, which remained in his pocket for a total time of not far from six hours. In order to affect the underlying skin it was necessary for the rays to traverse the glass of which the tube consisted, the paper wrapper enveloping it, the cardboard of the box, and several thicknesses of cloth. Yet on the 13th of April a red spot appeared on the skin immediately under the place where the active material had rested, a spot, too, that was the same shape and size as the tube containing the radium. The affected place soon developed all the outward appearances of a severe burn and forty-nine days elapsed before it had healed. As an indication of the strength of this action, it should be mentioned that, while the original wound was under treatment, a second and less severe one made its appearance opposite another part of the same pocket, showing that for a short time the small package must have been in a new position.

Madame Curie, who has been associated with her husband in the investigation of this substance, was burned in a quite similar manner, though less severely, the rays beng compelled to traverse the thin walls of a metal box in which a sealed tube had been placed. The purified radium is so active in its effects on the skin that the experimenters frequently found it inconvenient to handle the tubes or capsules containing the material, the fingers being burned.

If the new element has effects so remarkable when applied to the skin, might it not be found to have all the effects of the X-ray? And might it not be possible that these powers could be utilized in medicine? If the effects should prove desirable, it would certainly be far easier to use this remedy, for it could be applied directly for any length of time and in any desired strength.

EDWARD BOOTH,
Chemical Department, University of California.

SOCIETY PROCEEDINGS.

NEW YORK COUNTY MEDICAL SOCIETY.

Stated Meeting, Held November 25, 1901.

The President, George B. Fowler, M.D., in the Chair.

Address of the Retiring President.—Dr. Fowler reviewed some of the work of the County Medical Society since its formation nearly a century ago. He dwelt especially on all that the New York State Medical Society, whose origin was due to the New York County Society, had done to secure organization among medical men in this country. He said that by an unfortunate misunderstanding the New York County and State Societies had ceased to exercise their proper functions as integral parts of the American Medical Association, but that the

principles of which they had been the exponents had undoubtedly proved themselves the true ones that must guide medical action. It seemed to Dr. Fowler then that the time was ripe to hope for union between the New York State Medical Society and the American Medical Association, and he expressed the wish that the new administration would see such a union effected.

Address of the President-Elect.—Dr. Frank Van Fleet, the incoming president, said that for the ninety-sixth time the County Medical Society of New York was listening to the annual address of a new president. Despite the long years of service of the Society to the profession of the State and of the country, a lamentable misapprehension keeps the New York State Society from association with the National body of physicians in the country. While the friendliest feeling exists between the vast majority of the members of the New York County Medical Society and the New York County Medical Association, the best proof of which is the fact that 67 per cent. of the members of the New York County Medical Association are also members of the New York County Medical Society, still the two organizations exist and the fact of their dual existence lessens their usefulness and influence. (We print in this week's issue the complete address of Dr. Van Fleet.)

Committee on Reconciliation.—After the President's address Dr. D. St. John Roosa offered a resolution to the effect that a committee of five should be appointed by the president of the New York County Medical Society to confer with a similar committee from the New York County Medical Association for the purpose of discussing the ways and means of reconciliation between the two bodies so as to bring the matter formally before the New York State Medical Society at its next meeting in Albany. This resolution was adopted without a dissenting voice.

Prophylaxis of Venereal Diseases.—Dr. Prince A. Morrow, Chairman of the Committee of Seven appointed last February by the President of the New York County Medical Society to discuss the subject of the prophylaxis of venereal diseases in New York City, then read an abstract of its report. The full report appears in this week's issue of the MEDICAL NEWS.

Regulation of Prostitutes.—In the discussion Dr. Ferdinand Valentine said that with regard to the regulation of prostitution and the consequent diminution and prophylaxis of venereal diseases, the main difficulty is the state of public opinion with regard to these questions. The public absolutely refuses to listen to medical warnings with regard to the dangers involved, and even refuses to concede the existence of the social and physical evil, at least to anything like the extent to which they really exist in our midst. It is not difficult to propose remedies that will surely be effective, and the Committee has certainly been thoroughly conservative and eminently judicious in their discussion of the possible means of regulation. For this the medical profession owes them sincere thanks.

Segregation as a Remedy.—The present condition of prostitution has certain indications that should be of service for its regulation. Naturally, prostitutes walk in certain quarters of the city and thus point out that their aggregation in certain places represents the next possible step in the regulation of the evil. This segregation should be either in districts or, as the Committee suggests, in domiciles. In order that this method should be efficacious the districts or houses selected for occupation by prostitutes should be rigorously policed and should be kept constantly under the eye of the higher authorities so as to prevent the evils that might flow from police complacency with regard to vice for interested reasons. As is the rule in certain countries in Europe, visitors to public houses of prostitution should be warned of the character of the house they are about to enter. Each visitor should be provided with an official printed circular pointing out the dangers of venereal diseases and the most approved method for their prevention. At least then the public duty will have been done in providing proper warning of evils of which the visitors to such institutions may not have proper knowledge.

Education of Public.—In addition to the direct and immediate instruction furnished by circulars, the medical profession should make its influence felt for the education of the public with regard to the dangers of venereal disease and especially their presence widespread in our midst. As a matter of fact, at the present moment the proper recognition of these conditions by the general public is extremely meager. Knowledge means more for the protection especially of the young than any other possible precaution that can be taken. The evils under consideration are inevitable, but the exercise of proper safeguards can make them as little effective for evil as possible. The medical profession owes it as a duty to itself and to the public to make perfectly clear the present condition of affairs with regard to these diseases.

Prize Essay on Venereal Diseases.—Dr. S. Adolph Knopf said that in the present battle against tuberculosis the German Government, by the advice of some of the best and most practical medical men in the world, had decided that one of the most opportune and promising methods of teaching the public the necessity and manner of guarding against the spread of tuberculosis was to publish an essay that gave them the necessary information in a complete yet thoroughly popular and intelligible manner. This essay had been obtained as the result of a prize competition in the matter offered by the German Society for the Prevention of Tuberculosis and after the decision for the prize had been distributed widely throughout the German Empire. Dr. Knopf thinks that this same method would prove efficacious for the prophylaxis of venereal diseases. The problem presented by the two sets of cases are very nearly similar in the factors that make them up. Dr. Knopf offered a resolution that the New York County Medical Society take into consideration this question of giving a prize for a popular essay on the avoidance of venereal diseases. This essay could after the prize decision be distributed widely and so form the basis for well-grounded knowledge in the public mind with regard to this important question. This resolution was adopted and was referred by the President of the Society to a committee for due consideration and report.

Candid Medical Declaration.—Dr. Lapowski said that the most important announcement that the medical profession could make in the matter of a venereal disease, in order to give the public true ideas with regard to them, was the candid declaration that physicians are practically not able to say that they can ever cure them. The present laxity of public opinion with regard to the danger of vene-

real diseases is due to the fact that the public has an overconfidence in power of physicians to heal them. One is never able to say that a case of syphilis is cured. One can relieve the symptoms of the initial stages of the disease and can give the patient some confidence as to his condition, but one can never assure him that he will not have relapses, and, after relapses have occurred and have seemingly been successfuly treated by remedies, no assurance can be given against their future recurrence. With regard to gonorrhea, one is almost in the same condition. One knows when a gonorrhea begins, according to the expression of a famous French venereal specialist of half a century ago, but one cannot say when it will end. Here, too, one is able to relieve symptoms and sometimes even to effect a cure; but in any given case one can not be sure of bringing about this eminently-desirable result. An elaborate system of police regulation of prostitution has ben instituted at Breslau under the immediate direction of Neisser, the discoverer of the gonococcus. There the prostitutes are thoroughly examined at stated intervals, not by ordinary inspection alone, but by means of the microscope. The result of this rigorous examination has been to beget overconfidence in the general public as to their protection against gonorrhea in intercourse with the prostitutes who are under municipal regulation. The statistics of Breslau show that there is a greater amount of gonorrhea to the thousand of population than in any city in Europe. This may be partly due to the fact that the statistics of gonorrhea are better kept at Breslau than elsewhere, but it is also undoubtedly due to the false confidence begotten of faith in legal regulation. With regard to the young, particularly, Dr. Lapowski believes that they should be sedulously warned of the dangers of venereal disease and of the possibilities of their easy contraction. Dr. Lapowski himself will never forget the last word to his class of one of his old professors at Warsaw: "Remember that one cannot be too careful with regard to the contraction of venereal disease. Slight and innocent contact may have serious results. Never kiss a young woman until you have thoroughly assured yourself that the glands at the back of her neck are not swollen."

SOCIETY OF DERMATOLOGY AND GENITO-URINARY SURGERY OF NEW YORK.

Stated Meeting, Held November 8, 1901.

The President, R. H. Greene, M.D., in the Chair.

Tuberculosis of the Testicle.—Dr. H. H. Morton reported a case of tuberculous testicle, with the following history: W. P., aged 49 years, plumber; father died of phthisis; patient has always been in good health until six weeks ago when the present trouble began. He vaulted over an area railing six or seven steps high, but for the moment did not experience any pain. The second day afterwards his testicle began to enlarge and feel very painful, reaching its maximum size in about two days. Then it remained stationary for four weeks. Two weeks ago it began to soften at one point. The pain which had been present all the time continued. An examination showed that the right testicle was enlarged, it was adherent to the scrotum and soft at one point. The cord was enlarged and thickened, the seminal vesicles and prostate as felt *per rectum* were normal. Operation was performed on October 12th, consisting in castration, and at the same time circumcision for elongated and phimotic prepuce. On removal the testicle was found to be riddled with small abscesses filled with pus and detritus.

Dr. Morton regards as the interesting feature of this case the very unusual history which the patient gave and which would lead one to suspect a traumatic hematocele occasioned by a "snap the whip" action of the cremaster muscle, rupturing some of the testicular veins, instead of an uncomplicated but very rapid form of tuberculous infiltration.

Dr. Ramon Guiteras, in discussing the case, said that some time ago he operated upon a patient whose condition was the same as that which Dr. Morton describes. The patient had received six months previously a blow by falling or jumping, after which his scrotum had become ecchymosed, swollen, and painful to the touch. The swelling decreased, and left a hard, smooth, solid tumor which resembled that of hematocele. An incision was made through a dense, thickened tunica, and two ounces of prune-juice-colored fluid escaped. The testis and epididymis were then seen to have a lardaceous look, and to be enlarged. The organs were evidently diseased, although the induration was general and there was no nodular formation. He removed the testis and submitted it to a pathologist, who reported it to be tuberculous. It must be remembered that, although tuberculosis of the testis usually shows itself in nodules which later on break down and suppurate, such testes are sometimes perfectly smooth. He recalled a case in his service at the City Hospital, that of a man, forty-five years of age, who had one testis removed, presumably for tuberculosis, and who had entered the hospital on acount of an abscess in the remaining testicle. Examination showed the testicle to be enlarged, hard, ovoid in shape, and perfectly smooth. The epididymis was stretched out over it, and there was a sinus running up into its globus minor. The patient was told that the gland would not be removed unless absolutely necessary. Dr. Guiteras intended to open up the sinus, curette it, cauterize it with carbolic acid, etc. Accordingly, he enlarged the opening and began to curette. A large amount of tuberculous tissue was removed and the sinus was found to communicate with the testis proper. Continuing to remove tuberculous tissue, he found, to his surprise, that the entire cavity of the gland had been removed, and nothing but the capsule of the testis had remained. The capsule did not collapse, but retained its shape like a shell. What had seemed to be a smooth, round tumor, hard like a syphilitic testicle, was in reality a shell full of tuberculous detritus. The whole gland was, of course, removed later on.

Cancer of Testis.—Dr. Morton also reported a case of cancer of the testicle, with operation. J. S., artist, aged thirty-nine years; father died of old age; mother, of pulmonary tuberculosis; the patient had never had any venereal disease. One year ago noted growth in testicle as large as a bean. This grew rapidly larger and attained its full size in two weeks. During all this time patient had no pain until six weeks ago, when some pain was experienced in the back at night, but none during the day while up and about. Patient has become emaciated during the last three months, particularly in the last five weeks, losing about forty pounds in three months. On examination lungs and abdomen were found normal. The testicle on palpation was smooth, oval, but showed a distinct fluctuation; the spermatic cord was not

enlarged. On testing the translucency with a lighted candle and a tube the tumor was found to be opaque. On aspirating with a hypodermic exploring needle a few drops of blood and bloody serum were withdrawn. After making an incision through the scrotum and the testicular covering, the tunica vaginalis was found to contain only one to two drams of fluid, but the whole body of the testicle was enlarged by a soft fleshy growth. The spermatic cord was not thickened and on this account one of the important diagnostic signs of malignant disease of the testicle was not available. Dr. Morton thinks that this case emphasizes the difficulty of making a diagnosis in certain cases of testicular new growth. In the present instance a hydrocele, with thick walls and inspissated and bloody contents, was supposed to be present, until an incision proved the solid character of the tumor. Specimens of both cases were presented to the society.

A New Urethroscope.—Dr. F. Cabot presented a new urethroscope. According to his opinion the source of light used in urethroscopy should be placed at the distal end of the tube, as is the case in the instrument devised by Dr. C. H. Chetwood. In Dr. Cabot's instrument there are some main and some minor improvements. In the first place, the lumen of the tube remains unobstructed by the lamp and its holder, which has been placed in a chamber. This chamber protrudes somewhat, but very slightly, into the lumen of the tube, so as not to interfere in any way with the inspection or the free use of applicators. Furthermore, the chamber increases the size of the tubes only two numbers, as measured by the French scale. The lamp and connecting wires are sealed within the holder, so that they can be washed and even boiled without being

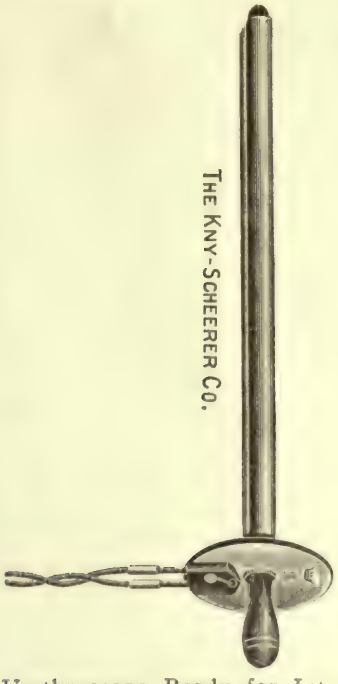

Fig. 1. Urethroscope Ready for Introduction.

injured thereby. A great advantage of the instrument is that the obturator and lamp are both left in place when the instrument is introduced into the urethra, so that after the withdrawal of the obturator an inspection and application can be made at once by simply turning on the electric current. In addition to these points another improvement has been made by doing away with the switch usually

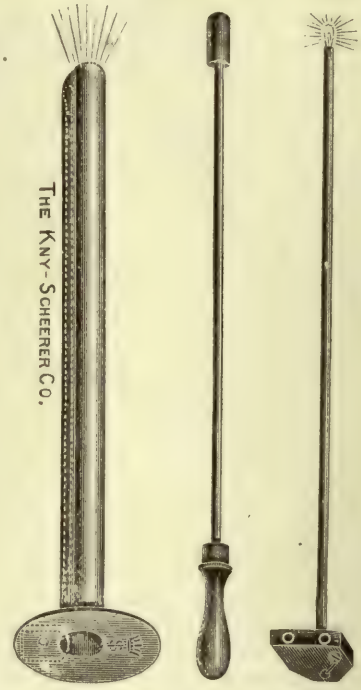

FIG. 2. *a*, Light-carrier; *b*, Obturator; *c*, tube.

placed on the lamp holder, the turning on and the regulation of the light being effected by the rheostat of the battery.

Cystitis Due to Mixed Infection.—Dr. Bierhoff reported a case of cystitis due to a mixed infection of the gonococcus and bacterium coli. The patient was a woman, aged twenty-one years, who had been ill four or five weeks with severe symptoms referable to the bladder. The condition began with increased frequency of urination accompanied by more or less burning and tenesmus, these symptoms steadily growing more intense. Two weeks ago she came under the care of Dr. McBarron, who employed vesical irrigation, which was followed by some relief, but internal medication had to be substituted for this method of treatment, because the catheter caused considerable pain. She has become much emaciated and has a slight temperature. Examination of the urine showed pus, epithelium and staphylococci, and the condition was regarded as being of renal origin. Of late the urine has been decidedly purulent and the patient has been confined to bed. She has to urinate about every fifteen minutes day and night, and the act is accompanied by great tenesmus and burning. No blood has been passed. Both kidneys were easily palpable, slightly mobile, the right more so than the left; neither of them is enlarged nor tender. A purulent urethral and vaginal discharge and some tenderness in the vagina over the neck of the bladder are present. Introduction of the catheter is exquisitely painful. A small quantity of very turbid urine was withdrawn by the catheter. A one-per-cent. solution of cocaine injected into the bladder did not relieve the pain sufficiently to permit irrigation. The patient was then deeply anesthetized, but only 70 to 75 c.cm. of fluid were tolerated, a greater quantity being expelled at

once. Cystoscopical examination revealed marked inflammation over the entire sphincteral region and trigone and the entire mucous membrane showed an irregular, roughened surface with a folded and very reddish appearance. Both ureteral orifices were large and pouting, the left, together with its surrounding membrane, appeared to be more inflamed than the right. The ureteral catheter withdrew clear urine from right kidney which appeared to act very freely; on the left side the catheter was arrested at a point 5 mm. from the ureteral orifice. A sound introduced afterward was likewise arrested. The diagnosis made was cystitis suppurativa acida acuta, presumably of gonorrheal origin. The treatment consisted in urethral and vesical irrigations with a one-per-cent. boric-acid solution without catheter, followed by injections into the bladder of one-fourth to one-per-cent. nitrate of silver solution. The vagina was irrigated with protargol solution, one-half to one per cent., and then packed with gauze strips saturated with five-per-cent. protargol in glycerin. Morphine was given *per rectum*. The patient made a slow but complete recovery. Examination of the urine withdrawn by means of a sterile catheter showed the presence of pus with vesical epithelium and two varieties of microorganism, a short, plump diplobacillus, presumably bacterium coli and typical intracellular and extracellular gonococci which reacted positively to Gram's stain. Smears from the urethra and vagina revealed the presence of intercellular and extracellular gonococci and colon bacilli in the former and many varieties of micro-organisms, but no gonococci, in the latter.

Mycosis Fungoides.—Dr. Lapowski presented a case of mycosis fungoides in its prefungoid state. The patient was a nurse, forty-two years of age, born in Ireland, who had been in good health up to her twenty-ninth year, when she had an attack of quinsy and rheumatic fever lasting two months. Eight years ago she contracted diphtheria and a year later an eruption developed on her body and still exists in the same form. The first patches appeared on the right arm, gradually spreading over the body and affecting principally the flexor and also part of the extensor surface of both upper and lower extremities, the neck, trunk, abdomen, sacral region and buttocks. The palms and soles have been and are free from the eruption. The scalp has the appearance of a pityriasis sicca, and on both cheeks several dry, eczematous patches are present. The size of the patches ranges from that of a pea to a half dollar, of round or oval shape, sharply defined and only very slightly projecting above the surface of the skin. They are brownish-red in color, discrete and isolated. The surface is dry, slightly scaly. The skin folds are well marked, some of them slightly infiltrated, giving a peculiar feeling of hardness when taken between the fingers. The patches extend peripherally, but do not clear up in the center; glands, mucous membranes, nails and hair are in normal conditon. There is absolutely no change in the location, extension and color of the lesions since the patient was first seen five years ago, except that some patches have disappeared. No subjective symptoms of any kind are present. As regards treatment a great many remedies have been employed in the form of ointments and plasters, and iron, arsenic, strychnine, iodide of potash, thyroid extract, etc., have been given without benefit. Only the application of Churchill's tincture of iodine produced a marked but temporary improvement, the patches disappearing and leaving dark-brown marks, but soon reappeared without responding again to the tincture of iodine.

Dr. Morton said that the patches resembled very much those of squamous eczema as they are seen in persons with a pale, anemic integument.

Dr. Goldenberg suggested that the case might belong to that class of skin diseases described as leucemia cutis or lymphodermia. An examination of the blood should therefore be made. The history of the case is strongly in favor of mycosis fungoides, still he would expect a little more infiltration of the patches and the presence of itching.

Dr. Leviseur said that in two cases of mycosis fungoides he had observed the sudden disappearance of some of the lesions in what seemed to be an erratic manner and entirely independent from treatment, as in Dr. Lapowski's case, and he considers it one of the characteristics of this affection. Even when the disease is in its fungating stage some of the well-developed tumors suddenly disappear without leaving a trace, the skin, of course, never being entirely free from lesions.

On account of the fatal character of the disease an early diagnosis of the erythematous or eczematous stage is of the utmost importance.

BOOK REVIEWS.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By JAMES M. ANDERS, M.D., Ph.D., LL.D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-Chirurgical College; Attending Physician to the Medico-Chirurgical and Samaritan Hospital, Philadelphia. Fifth Edition. W. B. Saunders and Co.: Philadelphia and London.

A TEXT-BOOK of medicine that runs rapidly through several large editions needs no praise, and for our opinion of the present work we refer the reader to our favorable comments on former editions. The more important changes noted are the thorough revision of the infectious diseases, the bringing up to date of the section on nervous diseases, and the addition to the work of some new articles, such as fatty infiltration of the heart, streptococcus pneumonia, etc. Under malaria and yellow fever, brief but sufficient résumés are given of what has been done to establish the transmission of these diseases by the mosquito. Splenic anemia occupies a section, although the author holds that many of the cases are really pernicious anemia, or secondary anemia with splenic enlargement.

A TEXT-BOOK OF OBSTETRICS. By BARTON COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania; Gynecologist to the Howard, the Orthopedic, and the Philadelphia Hospitals, etc. Third Edition. W. B. Saunders and Co.: Philadelphia and London.

THE new idea of substituting photographs for text is followed with success to a marked degree in this work, yet there is excellent and ample reading-matter for the elucidation of the subject. The nature of perineal tears, the molding of the head, the positions occupied by the fetus, the mechanism of labor, the method of applying forceps, and the performance of version become clear to the mind on studying these pictures, in a way impossible from the most elaborate text. Deformities and obstructions to labor are also well illustrated. The author has had the good judgment, in this practical work, to make his chapters on anatomy, embryology

and mere curiosities brief and to the point. He has considered and dwelt upon the problems which confront the general practitioner at every turn, and in so doing has prepared a book eminently fit for students as well. The diseases of the new-born are treated of rather too briefly. In the treatment of asphyxia, the useful method of artificial respiration by alternate doubling up the body to deflate the chest and hyperextension to inflate it is not mentioned.

On Paralysis Agitans. With an Account of the Clinical Features of Other Forms of Tremor. By R. T. Williamson, M.D. (Lond.), F.R.C.P., Physician to the Ancoats Hospital, Manchester, and Assistant Lecturer on Medicine, Owens College. Sherratt & Hughes, Manchester.

This little book contains a good résumé of our present knowledge of paralysis agitans. It consists mainly of a clinical study of the disease in its somewhat varying forms. Of the pathology of the disease the author confesses that "it may be truly said that as yet we see through a glass darkly." As a matter of fact, very little has been added to our knowledge of the disease since Parkinson originally described it in England in 1817. Dr. Williamson's idea is, by bringing all of our present knowledge of the disease into small compass, to call renewed attention to it and so lead, perhaps, to active interest that shall broaden our views with regard to the disease. The study of other forms of tremor makes the book especially interesting to the general practitioner.

The International Clinics. Volume III., Eleventh Series. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry M. Cattell, A.M., M.D. J. B. Lippincott Company, Philadelphia.

The present volume of the "International Clinics" has for its opening article a thorough exposition of the methods in phototherapy invented and improved by Professor Finsen of Copenhagen. This article contains a series of illustrations of the results of that treatment, especially as applied to lupus vulgaris and cutaneous epithelioma. It is well known how much has been accomplished by Finsen's therapeutic methods. This article is by Valdemar Bie, Professor Finsen's laboratory assistant in the Finsen Institute. The technic of the employment of concentrated artificial light is the subject especially insisted on.

This volume contains in addition a series of articles on appendicitis. There is a discussion of the prognosis of appendicitis by Dr. Tubby of London; a description of selected cases of appendicitis by Dr. Deaver of Philadelphia; the surgical treatment of appendicitis by A. Routier of Paris; double nephropexy and inversion of the vermiform appendix by George M. Edebohls of New York, besides an excellent article on some acute affections of the gall-bladder and its associated ducts by Dr. Howard Lilienthal of New York, in which the differential diagnosis of biliary and appendiceal affections receives very full and practical discussion.

The section on neurology is of special interest in this volume. There is an article by Professor Arnold Pick of Prague on areas of softening in both cerebral hemispheres; an article on hereditary cerebellar ataxia and nocturnal epilepsy by Dr. D. R. Brower of Chicago; an article on the localization of nervous lesions by Dr. Alfred Wiener of New York, and an article on cerebellar degeneration due to intestinal intoxication by Augusto Murray of Bologna, Italy. This last article introduces a comparatively new idea into neurology, namely, the question of the degeneration of nervous tissue as the result of auto-intoxication, somewhat in the same way that the liver and kidneys seem to degenerate from this cause.

Libertinism and Marriage. By Louis Jullien, M.D., Laureate of the French Academy of Medicine, Surgeon to St. Lazare Hospital, Paris, and Professor Agrégé of the University of Paris. Translated by R. B. Douglas. Philadelphia: F. A. Davis Company.

This little book is a popular exposition of certain of the evils that modern medical science has shown to be concomitant to venereal diseases. Professor Jullien has had a large experience with these diseases in the St. Lazare Hospital. This is the woman's prison of Paris, where women under the control of the police are detained when ill. The author is especially competent to write on this subject. It is only of late years that the realization of some of the dangers that he points out has come even to the medical profession. In our large cities we are coming to appreciate more and more how necessary are the warnings that he gives in this important matter. Much more of the sterility of modern marriage is due to previous venereal disease than has been admitted, and the question is an extremely important one from many aspects. The book is written in a matter-of-fact French style that appears somewhat startling when translated almost literally into English. It can scarcely fail, however, to be of great service in this country.

Transactions of the American Electro-Therapeutic Association. Ninth and Tenth Annual Meetings. Philadelphia: F. A. Davis Company.

This volume contains in handy form the most recent conclusions of those who are engaged in the practical application of electricity to the diagnosis and cure of disease. A number of the papers are distinct contributions to the subject of electro-therapeutics from medical men who are most occupied with this subject. The ordinary practitioner is prone to think that greater claims are made by specialists in electro-therapeutics for the effect of electricity upon disease than are justified by the results obtained. This objection may hold perhaps with regard to some of the papers contained in this volume. For those, however, who are interested in knowing the claims advanced for electro-therapeutics it can scarcely fail to be of great interest.

Dr. Betton-Massey's articles on the treatment of cancer by the Massey method and the cataphoric treatment of cancer are of this class. Dr. William Morton's article on spark-gap currents, and Dr. Snow's article on the Morton wave current treat of special phases of applied electricity with regard to which original documents are always of more than ordinary interest. Three articles on the application of electricity to neurasthenia by Dr. Francis B. Bishop, Dr. Daniel R. Brower and Dr. William B. Benham Snow deserve attentive reading, because they represent the phase of medical application of electricity which is most generally conceded to be useful. The volume as a whole is a distinct addition to American medical literature and a definite assurance that no branch of medical science, however abstruse, is to be neglected in any important feature by America medical men.

The International System of Electro-Therapeutics. Edited by Horace R. Bigelow, M.D., and G. Betton Massey, M.D. Philadelphia: F. A. Davis Company.

Electro-Therapeutics remains one of the most alluring and one of the least satisfactory chapters in mod-

ern therapeutics. Recent advances in applied industrial electricity have made medical interest in the subject greater than ever. As the editor says in the preface, "At a time when remarkable and even spectacular progress is being made in the industrial applications of electrical force, each advance necessarily the final effort of a specialist within his special department of physics, it is but reasonable that physicians should also demand a treatment at first hand of the many questions involved in scientific electro-therapeutics rather than mere compends written by partial cultivators of the field."

The fact that the second edition of this book should be called for within a few years shows how extensive is the interest in the subject. The present volume well represents the status of electro-therapeutics as at present applied by men who have had most experience in medical applied electricity.

The section devoted to the application of electricity to gynecology and obstetrics is of most general interest. The first article, on the electrical treatment of fibroid tumors of the uterus, is supplied by Dr. Grand and Dr. Famarque, Assistants at the clinic of the late Dr. Apostoli of Paris. Other articles in this section are by Drs. A. Tripier of Paris, Augustin Goelet of New York, J. H. Kellogg of Battle Creek, Mich., A. Lapthorn Smith of Montreal; and an interesting article on ectopic gestation by Drs. Carter S. Cole and George W. Jarman, revised by Dr. Egbert H. Grandin, also appears.

In the section devoted to diseases of the nervous system, Dr. William J. Morton of New York, in the article on diseases of the spinal cord, gives the usual enthusiastic account of good results in the application of various forms of electricity to organic nervous disease. Unfortunately, the claims thus made are not substantiated by other and less enthusiastic practitioners of electro-therapeutics. Dr. Wm. Leszinsky of New York has a very practical article on the applications of electricity to the treatment of diseases of the peripheral nerves. The contrast between Dr. Morton's sixty pages and Dr. Leszinsky's sixteen, though the latter has a subject in which the application of electricity is surely of great benefit, is at least striking.

With regard to much of the book one is tempted to say that electro-therapeutics is not a little discredited by the overenthusiastic claims of certain specialists who obtain results which frequently lack confirmation at other hands. Within the pages of this volume, however, better than anywhere else in English, at least, can be obtained all that is known and practised, whether successfully or otherwise, in the domain of electro-therapeutics.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A Practical Exposition of the Methods, Other than Drug-giving, Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by SOLOMON SOLIS COHEN, A.M., M.D. Volumes III., IV.—Climatology—Health Resorts—Mineral Springs. By F. PARKES WEBER, M.A., M.D., F.R.C.P. (Lond.). With the Collaboration for America of GUY HINSDALE, A.M., M.D. P. Blakiston's Son & Co., Philadelphia.

DR. COHEN'S idea of a system of therapeutics is further developed in these two volumes, III. and IV. of his series. In Book I. the Principles of Climatotherapy, Ocean Voyages, Mediterranean, European and British health resorts are considered. In Book II., the health resorts of Africa, Asia, Australasia and America, Special Therapeutics and an article on the Hawaiian Islands are presented.

This contribution to therapy, in its convenient form, is especially worthy of earnest commendation. In a country where, and at a time when, far too many books are being published and people are too busy to more than glance at titles, it is a pleasure for the reviewer to be able to say that such and such a volume stands out in distinct relief and is worth the time and the trouble to study. Such is the position of these two volumes. While in many respects they are capable of improvement, yet what shortcomings they do possess are appreciable after all by the specialist in the line and would not be any detriment to the book's value to the general student.

The topic of the treatment of disease by climate is in great need of more careful and accurate handling than has hitherto been accorded it; the works of scientific value bearing on the topic have been all too few and even the best have been greatly restricted in scope. The present volumes fully answer the highest scientific canons of the day, and they cover a field almost coextensive with the civilized globe. In fact, there is so much said about so many places that a just criticism may be made that not enough is said about numerous resorts which enjoy a wide reputation.

The work is especially valuable, by reason of the able collaboration of Dr. Hinsdale, for the American practitioner, as in the second book a complete survey is made of the field of the American health resorts.

The work of the publisher is worthy of special commendation.

THE MEDICAL NEWS VISITING LIST FOR 1902. Lea Brothers & Co., New York and Philadelphia.

FOR sixteen years the MEDICAL NEWS "Visiting List" has been a friend of many. It has been pocket companion, friend, bank record and reminder of engagements.

This year the "Visiting List" comes in substantially the same form. Its reading matter has been carefully revised and its schemes for dentition, alphabetical list of therapeutic hints, directions for examination of the urine, modes of inducing artificial respiration and ligation of arteries, tables of doses, diseases and their remedies, weights and measures and other features, all combine to make this an exceedingly valuable book for the physician's daily round.

Its small size, strong binding and well-proportioned pages make it essential for the record of the many details of practice or business.

DICTIONARY OF PHILOSOPHY AND PSYCHOLOGY. Including Many of the Principal Conceptions of Ethics, Logic, Æsthetics, Philosophy of Religion, Mental Pathology, Anthropology, Biology, Neurology, Physiology, Economics, Political and Social Philosophy, Philology, Physical Science and Education, and Giving a Terminology in English, French, German and Italian. Written by Many Hands and Edited by JAMES MARK BALDWIN, Ph.D., Hon. D.Sc., Hon. LL.D., Stuart Professor in Princeton University. In Three Volumes. Vol. I. New York and London: The Macmillan Company. $5.00.

THIS work is a veritable *index rerum* of science, pure and applied, as well as a dictionary of philosophy and psychology. It is more than a dictionary; it is almost an encyclopedia. For many years it has been in preparation. Dr. Baldwin has had associated with him scholars from almost every seat of learning and he is to be congratulated in this, the first volume, of the enterprise. We recommend it most heartily to all those interested in science. Great pains are manifest in the preparation of the terms relative to positive science, such departments as biology, in which so many important advances have been made in the past few years, being especially complete, and the topics discussed, the modes of spelling, the questions of terminology and of classification have all received attention from scholars

evidently equipped, in the best senses of the word, for such questions.

For students of psychology, neurology and psychiatry, this work makes special appeal in that the terms of these sciences, usually so difficult of translation in different languages, have received very careful consideration by a united board of editors. This feature marks a great step forward for the English student of psychology. Special bibliographies make the work of immense value. No matter what the subject under discussion may be—alphabet, alternating insanity, brain, cleptomania, emotional insanity or language—each has a short bibliography of the most recent and best authors who have discussed these problems.

It is particularly refreshing to find such sharp, terse definitions of terms which in other works are long drawn out and almost impossible of understanding.

The publishers' problems have been well handled and the work is one to recommend from every point of view as an evidence of good workmanship and high scholarship.

MANUAL OF CHEMISTRY. A Guide to Lectures and Laboratory Work for Beginners in Chemistry. A Text-Book Specially Adapted for Students of Medicine, Pharmacy and Dentistry. By W. SIMON, Ph.D., M.D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore. Seventh Edition. Thoroughly Revised. New York and Philadelphia: Lea Brothers & Co.

WE have had occasion in commenting on previous editions of this work to express the criticism that for the purposes set forth this is one of the best works of its kind. Continued revision has improved it greatly.

In this present revision certain trends in modern-day chemistry have been well and adequately pointed out. Thus, the engaging subject of physical chemistry, with its wealth of new ideas bearing on the electrolytic theories and phenomena, is brought to the attention of the student and the fundamental principles very clearly expounded. Much more might have been added with profit for the student of medicine since medical literature is now bristling with the brilliant results of physico-chemical studies on toxic action, pharmacology, antiseptic action, etc.

The chapters on physiological chemistry have been enlarged and rounded out, thus bringing this fundamental structure of physiology into modern lines for the beginner.

The character of the work from the purely mechanical and artistic standpoints is particularly worthy of commendation.

HUMAN PHYSIOLOGY. Prepared with Special Reference to Students of Medicine. By JOSEPH HOWARD RAYMOND, A.M., M.D., Professor of Physiology and Hygiene in the Long Island College Hospital, and Director of Physiology in the Hoagland Laboratory. Second Edition. Philadelphia: W. B. Saunders & Co.

THE assumption that in the short time allotted to the study of physiology in medical schools students can assimilate only the main facts and principles of the subject is perhaps a justifiable one, and it has led to the production of a number of text-books for students' use of which the volume under consideration is a good example. It is inevitable that in such a book many subjects must be dismissed with less consideration than thoughtful students will demand for them. Prof. Raymond frankly recognizes the deficiencies growing out of his voluntarily-assumed limitations of space in referring those who desire fuller knowledge to the larger works on physiology.

On the whole the author has avoided plunging his readers into difficulty by adhering to a style at once brief and lucid. He does not steer clear of what he calls the more "recondite and abstruse phases" of physiology, however, when he undertakes to dispose of doubtful matters by verbatim quotations from authors holding fundamentally inconsistent views. Thus, in adjacent paragraphs, Gray is made to say that splenectomy is necessarily fatal, while Schäfer is quoted to the effect that the spleen "is in no way essential to the normal nutrition of the body." The citation of clinical histories of cases of cretinism, in the chapter on ductless glands, is in questionable taste. If a similar plan were adhered to throughout the book we should have a work on physiology containing clinical histories and illustrations of cases of renal disease, hepatic disease, and so on without limit. Anatomical Plate III. is very well printed, but, as presumably it is intended to picture normal organs in their proper positions, it would be advisable to represent the greater curvature of the stomach as reaching not quite below the level of the umbilicus. The illustrations are numerous and as a rule useful, and the volume as a whole will serve its purpose well.

BOOKS RECEIVED.

The* MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.

INTERNATIONAL CLINICS. Edited by Dr. H. W. Cattell. Vol. III. Eleventh Series. 1901. J. B. Lippincott Company, Philadelphia.

A MANUAL OF THE PRACTICE OF MEDICINE. By Dr. F. Taylor. Sixth Edition. 8vo, 1030 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

THE ROENTGEN RAYS IN MEDICINE AND SURGERY. By Dr. F. H. Williams. 8vo, 658 pages. Illustrated. The Macmillan Company, New York.

A LABORATORY HAND-BOOK OF URINE ANALYSIS AND PHYSIOLOGICAL CHEMISTRY. By Dr. C. G. L. Wolf. 12mo, 190 pages. Illustrated. W. B. Saunders & Company, Philadelphia and London. $1.25.

THE SURGICAL TREATMENT OF DISFIGUREMENTS AND DEFORMITIES OF THE FACE. By Dr. John B. Roberts. Second Edition. Brochure, 72 pages. Illustrated. The Philadelphia Medical Publishing Co.

ON PARALYSIS AGITANS WITH AN ACCOUNT OF THE CLINICAL FEATURES OF OTHER FORMS OF TREMOR. By Dr. R. T. Williamson. Brochure, 70 pages. Illustrated. Sherratt & Hughes, Manchester.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. Edited by Dr. S. Solis Cohen. Vols. III.-IV. CLIMATOLOGY. By Dr. F. Parkes Weber, with the collaboration in America of Dr. Guy Hinsdale. 2 vols. 8vo, 336, 440 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

THE STANDARD MEDICAL ANNUAL. By Dr. A. S. Burdick. 8vo, 921 pages. Illustrated. G. P. Engelhard & Co., Chicago.

A REFERENCE HAND-BOOK OF THE MEDICAL SCIENCES. New Edition. Edited by Dr. Albert H. Buck. Vol. III., Chl.-Equ. Quarto, 860 pages. Illustrated. William Wood & Company, New York.

AMERICAN EDITION OF NOTHNAGEL'S ENCYCLOPEDIA. TYPHOID AND TYPHUS FEVERS. By Dr. H. Curschmann. Edited by Dr. William Osler. 8vo, 646 pages. Illustrated. W. B. Saunders & Co., Philadelphia and London.

ATLAS AND PRINCIPLES OF BACTERIOLOGY AND TEXT-BOOK OF SPECIAL BACTERIOLOGIC DIAGNOSIS. By Drs. K. B. Lehmann and R. O. Neumann. Second Edition. Edited by Dr. G. H. Weaver. In Two Volumes. W. B. Saunders & Company, Philadelphia and London.

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SPECIAL ARTICLE.

SOME SURGICAL TENDENCIES FROM A MEDICAL POINT OF VIEW.[1]

BY REGINALD H. FITZ, M.D.,
OF BOSTON.

IT WAS not without considerable hesitation that the honor of addressing you this evening was accepted, especially as what I am about to say is somewhat opposed to the prevailing tendencies of the day and relates rather to differences of opinion than to well-established principles. If I pay too much attention to the other side of the subjects brought before you it is because this is less urgently advocated at present than the reverse. The importance of the subjects, however, is unquestionable since they belong to the borderland of medicine and surgery and may be stated as some surgical tendencies from a medical point of view.

The region mentioned obviously includes both the province of the physician and the domain of the surgeon. These terms may be supposed to represent the modest claims of the former and the imperialistic tendencies of the latter. It is common ground, however, and the successful advance of either surgeon or physician into the region previously occupied by his colleague will always be welcomed provided the interests of mankind thereby are served.

The improvement in methods of surgical procedure during the last thirty years has so greatly increased the number and variety of surgical operations that it has seemed to me desirable to question the value of some of these and especially to pay more attention to the subsequent history of the patient than to the immediate success of the operation. As physicians we have been duly impressed with the progressive diminution in the mortality-rate of operations, but we are far more concerned with the degree of benefit which the patient may have experienced. For centuries the pathologist has taught that there are diseases so mortal in their progress as to be regarded as practically incurable. The advance of knowledge shows that the number of these apparently incurable diseases is somewhat diminished by a more intelligent classification of symptoms and lesions, and that all diseases which have received a common designation are not necessarily identical. There still remains, however, a considerable group of what the physician regards as hopeless cases, and of late years especially he has been in the habit of asking his surgical colleagues to make some attempt to relieve the condition of these patients. Numerous efforts have been made and most encouraging results have been published, especially elsewhere. Unfortunately, when the comparison is drawn between such results and those under familiar conditions the conclusion is not so satisfactory as is to be desired.

It will readily be admitted that a sufficient trial of surgical treatment is justified in many cases where mechanical disturbances exist which medicinal treatment cannot relieve, provided the life of the patient is not endangered by the operation. Experience has shown that certain cases previously regarded as extremely dangerous or fatal without surgical treatment have been greatly benefited if not cured by such treatment. On the other hand, experience also has shown that immediate death, extremely short relief or prolonged suffering have resulted from operations designed to give longer life or greater freedom from distress than the physician could hope to offer. The surgeon is willing to operate upon the presumably hopeless case because the patient often survives the operation and may be benefited. The benefit is to be hoped for since at times the diagnosis proves faulty and remediable conditions are found. If the diagnosis proves correct and incurable lesions are met, the patient is regarded as no worse off than before the operation, while the latter may relieve suffering and prolong life. The physician, therefore, is encouraged to transfer his patient and give him what is often called the benefit of the doubt. Unfortunately, a not infrequent result of the operation under such circumstances is the death of the patient somewhat earlier and with more suffering to mind and body than if spared the surgeon's aid. In such cases the value of the doubt must be considered as problematical.

The failure of the surgeon to relieve to any great extent the sufferer from a supposedly incurable disease leads him to request the transfer of the patient at a time when the characteristic features of the affection are less pronounced, with the hope that the morbid process may be arrested at an early stage. Indeed, he may wish to attempt relief at a time when in the light of our present knowledge it is impossible to make a diagnosis. The physician may suspect the grave, perhaps fatal nature of the malady, but, owing to the similarity, if not identity, of the symptoms to those of less serious conditions, he feels compelled to wait for further developments.

The surgeon, on the contrary, would at once make an exploratory incision on the ground that the better the patient's general condition the less the immediate danger from the operation to the patient's life, and if the supposed lesions are encountered the chance of relief is increased. But the diseased appendix is found normal, the acute

[1] Anniversary discourse before the New York Academy of Medicine, Dec. 5, 1901.

intestinal obstruction proves to be a phantom tumor, the incarcerated gall-stone is non-existent, the abdominal tumor becomes a harmless enlargement of the liver. Exploratory laparotomies are undertaken for the relief of suspected cancer of the stomach and no cancer is disclosed. There are patients, too, often more desirous of the operation than is the surgeon who is to perform it. The experience presumably is not unique in which a patient undergoes removal of the ovaries, uterus and vermiform appendix for asserted pelvic and abdominal pains, and subsequently presents herself for surgical exploration of the region of the pancreas. The pain referred to this organ proves, without operation, to be dependent upon disordered gastric function of neurotic origin. Dr. Foote at a recent meeting of the Harvard Medical Society of New York reported the case of a young man who complained of abdominal pains. The physical examination showed the scars of four laparotomies, one of which had been performed in Russia and three in this country. On the same occasion Dr. Gibson mentioned that a normal appendix, seven inches long, had been removed from a patient who claimed to have had previously seven attacks of recurrent appendicitis. The patient, not content with this demonstration of a normal appendix, subsequently applied at the Roosevelt and Bellevue Hospitals for treatment for appendicitis. It is not to be wondered at that the host of neurotic and neuropathic men and women seek for operative relief for real and fancied ailments when they receive such advice as the following, taken from the editorial column of a daily paper: "It is probably true that the Dowager Empress Frederick's life could have been saved if she had been willing to have her stomach amputated. There are enough stomachless human beings alive and flourishing, and slight enough record of failures of the operation, to have made the chances distinctly even. The discomforts are not many, either; a few rules must be followed. The food must be cut up very fine and carefully masticated. One must show moderation at meals. The man without a stomach cannot eat as much as the man who has one. Everything must be warm, because the stomach, which heats food for the intestines, is missing."

Exploratory laparotomies whether by advice of the physician, desire of the surgeon or urgency of the patient are only too frequent. They are not without considerable danger and often disclose conditions which cannot be relieved and which might have been appreciated without an operation. The high mortality in such instances often is attributed by the surgeon to the disease and not to the operation. Not infrequently they are undertaken without sufficient forethought. They tend to make the physician superficial in observation, since the diagnosis is to be made definitely by means of the operation. They lead the surgeon to become only too ready to act upon the diagnoses of those often incompetent to make them, either through ignorance or inexperience, since the actual condition is likely to be made clear by his skill. Each case should carefully be scrutinized both by physician and surgeon before this operation is undertaken. The former may find conditions which will nullify the success of any operation; the latter may be led to recognize that the exploration can but add to the discomfort of the patient without prospect of any definite relief. It should not be made for diagnosis simply, but always for the purpose of curing disease or of relieving suffering. The art of the surgeon should ever be regarded as sanatory and should be called upon as rarely as possible to make a diagnostic procedure of what is essentially a therapeutic measure. The exploratory operation which discloses nothing is more likely to reflect upon the judgment of the surgeon who performs it than to represent a tribute to his skill.

In partial justification of these statements, as well as of others which are to follow, I have asked a former assistant, Dr. G. A. Waterman, to examine the records of the Massachusetts General Hospital during the period of ten years from 1890 to 1900. This decade was selected as it is recent enough to include many of the advances which have been made in operative technics and the years represented are sufficiently numerous to furnish an experience of profit. The value of the evidence lies in part from its source and in part from its representing the experience in a single institution of a number of surgeons identified with the practice of surgery in general.

FREQUENCY AND RESULT OF EXPLORATORY LAPAROTOMIES AT THE MASSACHUSETTS GENERAL HOSTITAL FROM 1890 TO 1900.

	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899
Number of operations	10	5	15	13	15	21	39	23	42	30
Cases of malignant disease	8	2	9	8	5	8	25	7	28	18
Number of deaths	3	2	7	8	7	9	11	13	16	11
Failure to relieve	6	2	5	3	2	5	22	3	17	13
Relief or securing diagnosis	1	1	..	1	2	5	5	4	6	5
Cure	..	..	3	1	4	2	1	3	3	1
Percentage of malignant disease	80	40	60	61	33	38	64	30	66	60
Percentage of deaths	30	40	46	61	46	42	28	56	38	36
Percentage of failure to relieve or cure	90	80	80	84	60	66	84	69	78	80

The following table shows the increasing frequency and various results of exploratory laparotomies at this hospital. It is not asserted that all such operations occurring during the years included are tabulated, only as many as could readily be ascertained by an examination of the records, hence the figures are to be regarded as chiefly of relative value. Many successful explorations undoubtedly are recorded under titles other than that of exploratory laparotomy. The total mortality and the failures to cure may be distinctly less than stated, but they indicate sufficiently that an exploratory laparotomy, except in especially selected cases, is an operation which carries a very decided immediate risk to the life

of the patient and a very considerable doubt as to the degree of relief to the symptoms. In general, with the increasing frequency of these operations there is some lessening of their mortality-rate, although the percentage of relief and cures is not especially improved.

The relief of suffering and the lengthening of life are legitimate aims for the surgeon as well as for the physician. The methods of the former are necessarily so much harsher than those of the latter that it may well be questioned whether too many operations are not performed with these objects in view. Granting that life may the more be prolonged by the aid of the surgeon, is the life thus extended worth the living? Neither physician nor surgeon can answer this question with any degree of certainty until the life of the patient has been lived. But the physician and surgeon are called upon to advise and are not always united in their opinions. It is often the tendency of the surgeon so to express himself to the sufferer that the latter frequently is made more hopeful than is justified by the evidence at hand. He is likely to bring before him the most favorable outcome of the suggested operation. The mortality is apt to be placed as low as has been obtained by the most skilful and experienced of the world's surgeons, although it may be far the reverse in the practice of the surgeon concerned. The degree of relief obtainable is likely to be exemplified by the exceptional instances, not by the rule, for the surgeon is more likely to recall the few successful cases seen at more or less frequent intervals than the numerous fatal cases of whose history after recovery from the operation he may know nothing. Assuming that the diagnosis of the conditions suggesting surgical treatment is clear, it is often found that complications exist rendering any treatment useless. The resection of ribs and drainage of the pleural cavity in pyopneumothorax seem of but little value when there is extensive tuberculous infiltration of the lung on the side opposite the diseased pleura. The operation must be regarded as worse than useless if at the same time there is evidence of amyloid disease of the abdominal viscera. What avails the extirpation of a renal tumor if at the time of the operation secondary nodules are present in the brain or lungs? The more learned in pathological anatomy the adviser is the more cautious will his prognosis be. Unfortunately, it is the tendency of the day for the surgeon in general to neglect this branch of knowledge. He is inclined to devote himself rather to the bacteriopathology which makes his operation succeed than to the postmortem examination which usually gives ample evidence of the cause of the patient's death.

It may be unwise for the sick man to be placed in any other than a hopeful position before the operation, but the latter should not be decided upon until those nearest the patient are as thoroughly informed upon all points as possible. It is especially for the physician on such occasions to realize his responsibilities and to prepare himself to meet them, since it is he who eventually is the less likely to be relieved of them. He cannot discharge this obligation by transferring his trust to the care of the surgeon, but should endeavor to aid the latter to the utmost possible extent. The patient then will be in a better position to decide whether he will prefer the known to the unknown, for, with the best intentions of the surgeon, the future of his patient is only to be forecast by past experience, and, fateful as this may be, it not infrequently is rather to be welcomed than the alternative offered.

Such statements receive their strongest illustration in malignant disease of the alimentary canal. Both surgeon and physician are agreed upon the usually fatal outcome of this affection and the uncertainty as to its duration. They are fully aware that in many cases death is likely to be preceded by great suffering from mechanical obstruction. Nevertheless the surgeon is ready to operate because there is a possibility of error in the diagnosis and the symptoms may prove to be due to a remediable cause, or the obstacle may be removed or overcome for the time being. The abdomen therefore is explored, first to make clear the diagnosis. Should this prove correct, even if there is evidence of extensive incurable disease, the inclination then is strong to attempt some sort of relief by resection, gastrostomy, anastomosis or colostomy. The surgeon may urge resection on the ground that it has successfully been performed by himself or by others and if the patient survives the operation pain is likely to be relieved and a life of usefulness may be prolonged for a number of years. He may present as an alternative anastomosis with its somewhat lower mortality and less favorable outlook as to the duration of life. With the discovery of conditions unfavorable to the former operation and mindful of the high mortality-rate of anastomosis, recourse may be had to colostomy with its customary disagreeable and annoying after-effects, producing at the best only a kind of relief for an uncertain period of time. The physician knows that without any operation apparently insuperable obstructions have yielded and indefinite periods of active life have subsequently been enjoyed. He knows that if the symptoms of obstruction persist the patient's suffering may be lessened by medicinal treatment, and that such treatment often is necessary even after temporary comfort only is obtained from an operation. He may know also that the surgeon himself, when asked what he would desire if in the place of the patient, has replied that he should prefer to die during the operation or to live the least possible time after it, than to prolong life at the probable cost of health and happiness. The higher its mortality the warmer would be his welcome of the operation.

In order to obtain the experience of patients after such operations upon the alimentary canal,

an inquiry has been addressed to the friends of a considerable number of those who have been operated upon at the Massachusetts General Hospital during the period between 1890 and 1900 for diagnosticated and demonstrated cancer of the stomach and intestines. Information was sought as to the degree and duration of any relief which may have resulted from the operation. The replies which have been received, including the information derived from the hospital records, pertain to nearly three-fourths of the cases thus investigated and show clearly what has been the melancholy outcome in many of the cases of this class of gastro-intestinal disease so generally cared for at the present time by surgeons. The pathos of some of these replies makes them all the more convincing.

It should be stated that it is probable that all the patients operated upon during this period are not included, that successes may have been overlooked, and that few or many of those from whom no replies were received are likely to have undergone the more favorable experience, if such it may be called, of prolongation of life, perhaps even of relief from suffering. Regarding the mortality and duration of life as relative, and the percentage of suffering as inexact, the evidence presented nevertheless must be considered as offering grave doubts as to any considerable benefit from this class of operations as a whole. It may be that the coming ten years will prove more encouraging, but the enthusiasm of the operator should not permit a warping of the judgment based upon so recent an experience.

In the series collected there were fourteen operations for cancer of the stomach. These included four gastrostomies, all the patients, with the exception of one not heard from, dying within two months, and four pylorectomies, one of which was not heard from, two died within the first month after the operation, and the fourth was relieved for several months; at the end of six or eight months, however, the last patient began to fail and died at the end of a year and a half.

Of the six gastro-enterostomies, four died within seventeen days, one "received no relief whatsoever and after twelve weeks' of terrible suffering passed away." The sixth felt quite well for about two months after the operation. He was then confined to the bed the greater part of the time and "suffered untold agony" till his death nine months later.

There were ten cases of intestinal resection, of which eight died within a month after the operation. The ninth patient was found to have a girdling ulcer without gross evidence of malignant disease, although from microscopical examination regarded as an adenocarcinoma. He was at work as janitor and enjoying fair health two and a half years after he was operated upon. The tenth patient was not heard from. Of the five cases of intestinal anastomosis two died within the fortnight following the operation, one lived six months and two have not been heard from.

There were 49 inguinal colostomies and the subsequent history of 37 of these has been ascertained. Twenty-eight of the latter died within the half year following the operation. Two lived between six and twelve months; five lived from one to two years and two lived twenty-seven and thirty months respectively after the operation had taken place. Thus only a few more than one-fifth of the cases heard from were alive one year after the operation.

When the question of relief of suffering is considered it appears that among sixteen patients who fully recovered from the immediate effects of the operation and lived four months or more after it, there was some or much relief in eight and no relief also in eight. The operation was regarded as "decidedly unsuccessful" in a patient who died a month later and in ten days after leaving the hospital. A patient who lived for two months was afforded "only temporary relief." Another living three months received "very little relief." One who lived four months was relieved "of the intense agony she was almost constantly suffering previously. After the operation the pain occurred occasionally." Her last four months of life, however, were spent in the hospital. Of a patient who lived five months it is stated "the operation was no relief. The pain from the running sore continued. Only for the pellets you prescribed in the hospital he would be screaming all the time. They had the effect of deadening it." Another who lived five months "derived no benefit from the operation . . . She suffered intensely except when under the influence of opiates. . . . No doubt the operation prolonged the suffering." A patient who lived six months after the operation had "slight temporary relief from acute suffering, but she never regained strength." Another patient also lived six months "free from pain that was severe until the end, and the chills were less. An ugly growth formed on the outside which caused him much uneasiness." The patient who lived sixteen months died "after a painful illness which lasted till death. Excepting a few days at a time he was continually in pain and under doctor's care." For one who lived twenty-one months "the relief did not last only about three months. Then he was a great sufferer the rest of the time." The life of one patient was prolonged "for two years, during which time he suffered continually. The relief afforded lasted about three weeks, and from that time on his suffering steadily increased." Of another patient who lived also two years it was learned that "he never was so he could sit up, but he thought it must have been a great relief to him to have the discharge come the way it did. He thought that he lived longer by having the operation, although he would have been glad to go long before he did, he suffered so much. He suffered a great deal but he had a medicine . . . that took away the pain in a measure. . . He said if it was to do

again he should have the operation as before." The two patients who lived twenty-seven and thirty months respectively were relieved for a year. Each was then operated upon for a second time, after which the condition was one of invalidism.

There were eight cases of anal excision of rectal cancer, three of whom were not heard from. Of the others, one died within a week, two lived fourteen and eighteen months respectively, the fourth was living and well at the end of two years, but in this case the nature of the growth does not form a part of the record of the case. The fifth patient is now alive and well, nearly twelve years after the operation. The microscopical examination of the specimen showed "a fibrous tissue stroma the spaces of which were filled with epithelial cells." Nevertheless the result in this case is so exceptional that a legitimate doubt must be raised as to the cancerous nature of the tumor. The evidence recorded is not sufficient to remove this doubt except from the mind of the sanguine surgeon. The patient who lived fourteen months became "an intense sufferer. He had to take morphine for relief. When he died he was a mere skeleton. When he got home he had not control of himself and used one pound of cotton a week; at the time of his death he used seven pounds." Concerning the patient who lived eighteen months it was stated that she "was relieved for only two months and then it began to trouble her and she lived until March 19th, 1892, and some of the time suffered intensely. The last six months was under the influence of opiates most of the time."

Of the seventeen Kraske operations seven were not heard from. Of the ten remaining, seven died within the year following the operation. Three lived twenty-two, twenty-nine and thirty-two months respectively. One patient remained in the hospital for two months after the operation, then returned to her home, "lived four weeks and was a great sufferer during that time." A patient who lived eight months after the operation "was a constant sufferer from the time he was operated on until the time of his death." Another one who lived twenty-two months "never worked at all, as he was not able. He did not suffer very much until he was home about a year and after that he suffered something terrible, could not get any relief at all; he was just as helpless as any infant." Of the patient who lived twenty-nine months it was stated "that *no* relief followed operation. It was no doubt a success, but the cancer grew within a year and although the operation prolonged my father's life, complications arose resulting from the *new* rectum, and it was worse, much worse than cancer. My mother died six months after my father. She passed through a serious operation, died also of carcinoma. If ever I have the dreadful disease I shall insist to be filled with morphine and die sooner, although I believe in operations, but not for that disease." The patient who lived thirty-two months "enjoyed fairly good health for six months, but after that she never saw a well day."

Of the cases of cancer of the alimentary canal whose history subsequent to the operation for the relief of this affection was learned, it appears that 28, or 36 per cent., died within one week; 15, or 19 per cent., died between one and four weeks; 14, or 18 per cent., died between one and six months; 4, or 5 per cent., died between six and twelve months; 9, or 11 per cent., died between one and two years; 4, or 5 per cent., died between two and three years; 3, or 3 per cent., lived as above stated. Thus 54 per cent. of these cases died within a month after the operation and 72 per cent. within six months. Any considerable prolongation of life applied, therefore, to less than 30 per cent. and to many of these the life was one of suffering and sorrow necessitating the frequent or constant use of opiates to obtain any measure of relief.

Intracranial tumors form another series of growths which have been operated upon for a sufficient number of years to permit a medical opinion to be formed of the value of this operation. Of the 15 cases included in the decade under consideration the subsequent history is known in ten. Of these four died on the day of the operation. One died at the end of three days, a fourth at the end of eleven days, another at the end of three weeks and one at the end of a month. Thus, within the month following the operation eight out of ten cases died. The ninth patient died in the hospital at the end of ten weeks. Of the tenth patient it is stated "that previous to the operation he suffered most intensely from headache and vomiting with attending weakness. After the operation (the immediate effects having passed away) he was comparatively free from pain and there was some gain in his speech and paralysis. The second operation was more successful and he was much better, being able to drive and go about in the cars, etc. The improvement lasted until two or three weeks before his death when he began to show signs of failing." He died seven months after the second operation, which followed the first by a month.

The treatment of tumors of the kidneys also occupies the debatable ground between medicine and surgery, and the experience at the hospital during the decade mentioned again offers but slight encouragement to the surgical treatment of this affection. There were eleven nephrectomies for malignant disease of the kidney and replies were obtained relative to the fate of eight of these patients. Four died within a fortnight of the operation, another at the end of two months, a sixth at the end of three months and another at the end of five months. The eighth patient was living and practically well three years after his operation. The examination of the tumor after removal showed that the growth, stated to be a sarcoma, proceeded from the suprarenal capsule, the kidney being but little altered.

Physicians will readily admit that the surgical treatment of external malignant tumors frequently offers a source of relief to pain, deformity and incapacity with but little immediate risk to the life of the patient. With the recognition that the disease probably will recur, the hope is maintained that recurrence may long be delayed, that it may take place within internal organs and prove relatively painless, or that death may result from some intercurrent affection wholly independent of the original disease. External tumors thus seem to fall wholly within the region of surgery. The physician, however, should stand ready to reclaim from the knife what may otherwise be satisfactorily treated. The surgeon is quite willing to transfer for medical treatment after operation the case of disease which may recur, with the hope of avoiding or postponing recurrence, but in certain instances it is apparent that medicinal or non-operative measures are to be tried before an operation is undertaken. No more satisfactory instances of the value of such treatment have been reported than those of W. B. Coley from the use of mixed toxins and those of F. H. Williams and others from the use of the Röntgen rays. Certain tumors of the neck in particular may be said to lie in this borderland of medicine and surgery. Long regarded as demanding surgical treatment in the first instance, the repeated unsatisfactory result of such treatment inevitably leads to the conclusion that surgical methods are to be employed only as a last resort after other measures have failed. The patient seeks medical advice for enlargement of the thyroid gland. The physician, perhaps not well informed, sends the patient to the surgeon who frequently takes the shortest way of riding the patient of the deformity, unmindful that thyroids are not to be removed simply because they are enlarged. Indeed, the deleterious effects of this treatment are only too well known by those who have seen the patient subsequently suffer from cachexia strumipriva, to obviate the effects of which various modifications in operative treatment have been introduced and medicinal treatment has become necessary. It is always to be remembered, however, that we are mainly indebted to a surgeon, Kocher, for our knowledge of the curative effects of iodine in 90 per cent. of the cases, to say nothing of his more recent recommendation of phosphorus, thus rendering operative surgery unnecessary if not injurious in this proportion of the patients.

The wise surgeon realizes that the operative treatment of goiter is demanded only for such varieties as have undergone secondary changes. The colloid and cystic, the fibrous and calcified portions alone are those primarily demanding the use of the knife, provided the deformity is sufficient, while the parenchymatous enlargements usually rapidly subside when submitted to the treatment with iodine. If a part of the thyroid gland presents the characteristics of these secondary degenerations, it does not follow that the entire gland is disorganized. It is for the surgeon so to familiarize himself with the pathology of this structure as to treat what demands surgical measures, but to refrain from his treatment of such goiters, entire or in part, as can more successfully otherwise be cared for.

Even if the limitations of the medical and surgical treatment of goiter are well understood, it would seem that the relation of enlargement of the thyroid to Graves' disease is frequently misunderstood. The surgical treatment of the latter affection finds new advocates from time to time and the value of this treatment is supported by columns of most encouraging figures. It must be remembered, however, that the term goiter means merely enlargement of the thyroid gland and that such enlargement differs in etiology, structure and in associated disturbances of function. Admitting that the removal of a considerable part of the diseased thyroid from a case of sporadic goiter produces a cure by relief of the deformity and of the immediate mechanical and remote constitutional disturbances, it by no means follows that this operation is to afford a like relief in Graves' disease. In the former affection the goiter is a cause of the disturbances, in the latter it is one of the disturbances the cause of which is unknown. Removal of this deformity, so often a vascular goiter, merely takes away one feature of the disease and has repeatedly led to the sudden and unexpected death of the patient, either on the operating-table or while apparently in a state of normal convalescence from the operation. It would seem as if the reported successes of the surgical treatment of Graves' disease were attributable rather to a lack of agreement as to what should thus be designated than to the especial skill or good fortune of the operator. Buschan's conclusions from his analysis of such reports are so suggestive that in genuine Graves' disease extreme or threatening deformity alone is to be regarded as a satisfactory indication for the removal or obliteration of considerable portions of the diseased thyroid.

In like manner the surgical treatment of malignant lymphoma is to be disputed. Here again we have to deal with progressive disease tending to produce extreme deformity of the neck often before other parts of the body are invaded. It is only after many years, even centuries of observation and experience, that the glandular deformities of the neck have become more and more sharply defined, grouped and classified. Even now there is apparent uncertainty and lack of agreement as to the significance of the term malignant lymphoma and the relation of this alteration of the lymph-glands to other changes in the structure of these glands. That certain of the regional enlargements of lymph-glands, with or without any considerable increase in the leucocytes of the blood, pursue the course of a malignant disease and eventually prove fatal is universally known. The resulting deformity is so annoying that the patient hopes to find speedy relief in the extirpation of the tumors. The uselessness of this treatment of leucemic lympho-

mata seems almost universally recognized. In a leucemic malignant lymphoma, however, despite failure after failure on the part of the surgeon to afford anything but the briefest possible relief to deformity, case after case continues to be operated upon before any sufficient trial of medicinal treatment has been made. Finally, the discouraged patient returns to his physician with equal, if not greater, deformity than before from the enlarged glands. Despite the limited value of the arsenical treatment of this disease, it is likely to be advised after the operation and if of value then, as it sometimes is, although perhaps temporarily, it is likely to have been equally useful before operative treatment was undertaken. Despite such experiences, operations are so frequent upon this class of patients that it would seem as if ignorance of the progress of this disease prevailed, that its nature was unrecognized or that the patient had not been fully informed of the inevitable outcome.

The ilustrations here presented are but a few drawn from the borderland of medicine and surgery and it is unnecessary and perhaps undesirable to extend them indefinitely. They are not intended to oppose the surgeon in his persistent efforts to relieve suffering humanity, but to emphasize the importance of the careful study and selection of suitable cases. It is not to be expected that the practice of the healing art is to be based solely on hygiene and surgery, the former to prevent, the latter to relieve or cure disease, although this assertion so frequently has been the shibboleth of the last quarter of a century. The value of remedies in common use is sufficiently well established to permit their limitation to be recognized and progress in the future is likely to depend much more upon the discoveries which shall make surgery less necessary than to open new fields for surgical treatment. Fully recognizing the marvelous benefits to humanity which anesthesia and asepsis have brought about, it must be admitted also that these benefits are not wholly unalloyed. Operations are undertaken which are followed by the immediate death of the patient, others prove to be wholly unnecessary and still others leave the patient in a condition of helpless invalidism, often making life worse than death. Any operation which does not better the condition of the patient must be regarded as a therapeutic error, since the knowledge thus obtained shows that the operation should not have been performed.

The advance of knowledge in the future should be in the direction of limiting these unnecessary and harmful operations, for the wisdom of the surgeon should serve as well to restrain him from operating as to enable him to operate successfully. Especially to be cultivated for these purposes are greater accuracy in diagnosis and prognosis, and the more widespread knowledge of pathology and pathological anatomy. The surgeon thus will become a better adviser although the number and variety of his operations thereby may materially be lessened.

ORIGINAL ARTICLES.

TREATMENT OF LOBAR PNEUMONIA.[1]

BY CHARLES G. STOCKTON, M.D.,

OF BUFFALO;

PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE AND CLINICAL MEDICINE, UNIVERSITY OF BUFFALO; ATTENDING PHYSICIAN, BUFFALO GENERAL HOSPITAL.

I HAVE listened to many and have taken part in not a few discussions on the treatment of lobar pneumonia, and, as a rule, have come away from such interchanges of views impressed with the fruitlessness of the effort. The universally-accepted doctrine that the disease is self-limited leaves still a shadow of doubt upon the brilliant results of those who are enthusiastic over any one of the many special forms of treatment. Men of large experience find that the mortality of pneumonia under the same management varies from time to time and that while the type of the disease may vary from season to season, its manifestations as seen in one patient are strikingly unlike those seen in another under apparently the same conditions.

I find cases of lobar pneumonia that are abortive, the crisis being reached after two or three days; other cases in which the involvement of the lung is very late in appearing and the resolution equally late; still other cases, the so-called serpiginous type, in which the process gradually extends from one portion of the lung to another, very well described by the old term "spreading." Still another type is that in which the disease wanders from lobe to lobe, the illness sometimes lasting three or more weeks. Again, there is a form that follows the rule except that though resolution does not occur as expected, yet the lung does not break down. Several weeks may elapse before the unwilling disappearance of the consolidation. This is not to be confounded with chronic lobar pneumonia which takes on the interstitial form, much of the lung being converted into fibrous tissue. Finally, we have the latent pneumonia of the aged; and, occasionally, a form that closely resembles this latter, which appears in the feeble and depressed from other causes than age.

When we come to consider the nature of lobar pneumonia, the foregoing statements are not surprising. We have to combat an infectious disease which usually finds its port of entry through the respiratory tract, and which probably finds in the lungs a focus for the growth and distribution of the specific micro-organisms. Just to that extent it is probably in the beginning a local process. and yet several days of profound illness may supervene before the appearance of those phenomena which we recognize as inflammatory. It is true that, as a rule, within the first twenty-four hours we discover the evidences of extensive inflammatory exudate; but, on the other hand, this may be delayed several days or even a week. Meantime, the patient is profoundly ill, having had an initial rigor, high temperature,

[1] Read before the Lake Keuka Medical Association, Aug. 14, 1901.

and prostration. We have come to understand that this means not so much the general infection of the body as a general intoxication, following the absorption of the toxins developed in the growth of the specific organisms. What we observe in our patients is the reaction of the tissues of the body against the toxin that is distributed generally through the circulation. As in diphtheria, so in pneumonia, whatever else we have to contend with, there stands first and foremost the toxemia. So true is this that some therapeutists feel that successful treatment of the affection must be directed solely against the toxemia. Certainly the matter of intoxication demands our constant and most serious attention. Indeed, in many cases it is the paramount question, and in a few cases it is practically the only question that needs our attention. Unfortunately, however, the toxin cannot be disposed of in any general way. Not every part of the patient's economy resists the toxemia with equal success; there is always a point of least resistance. Most commonly, we find this to be the heart, and ultimately this comes to be almost invariably the case; but before the heart has failed and, not rarely, as one of the active factors in producing cardiac depression, is the disability of other organs, or apparatus. Thus, the blood-making organs may fail to react and there is the absence of the natural leucocytosis. The liver and kidneys may be so crippled that a secondary toxemia develops which proves to be as unmanageable as that of pneumonia; and, finally, the nervous system may be so injured that rest is impossible and the functional activity in general, or in particular, is greatly handicapped.

These varied expressions of the intoxication of pneumonia explain the divergence from the typical in the course of the disease. It is, therefore, evident that lobar pneumonia must require different management in different cases and, in a greater degree than most diseases, it offers a field for clear-sightedness, intelligence and readiness on the part of the physician. We must find some comfort in knowing that there are a few methods which we may employ almost universally to assist Nature in her fight against the toxemia. There can be little doubt about the almost universal need of the preliminary calomel purge. Enough should be given to empty promptly the alimentary tract and to increase the activity of the liver and kidneys. The internal congestion can be still further relieved by the occasional use of magnesium or sodium sulphate, both for diuretic and purgative effects. There is a general agreement as to the importance of the treatment of the skin, although we differ in our methods. In the Buffalo General Hospital we almost invariably employ the hot mustard foot-bath followed by sponging. We have a particular way of giving the bath, and repeat it every two to six hours, according to the indications. The object is not only to promote diaphoresis, but to stimulate the cutaneous circulation, and thereby increase the efficiency of the heart. When the bath is given with sufficient care it fatigues the patient but little and is usually followed by considerable, and sometimes very marked, relief of symptoms. All are agreed that the general circulation demands attention. High blood-pressure and an exaggerated heart action are likely to do harm; they foreshadow a great pulmonary congestion and consolidation and irritate the brain. The realization of this formerly led to the use of antimony, veratrum viride, and other depressants, now mostly out of vogue. We usually find ourselves able to manage excessive circulatory activity by the purge and the foot-bath. The depressant drug is rarely needed; though I would not say that it is absolutely and invariably to be excluded. It is sometimes wise to employ cold compresses or ice bladders over the chest and, where the temperature is excessive, I have seen great benefit follow the cold bath after the manner of the Brand treatment in typhoid fever.

What one fears more than excessive circulation is depression of the heart or lowering of the blood-pressure and adynamia, the approach of which always causes uneasiness. In my experience the best way to manage this tendency is, so far as possible, to prevent its appearance. This doctrine is not new and it is the basis of various forms of treatment that, from time to time, have been highly lauded as being applicable to most cases. For instance, there was the treatment by alcohol or quinine in full and oft-repeated doses, the giving of ammonium salts *ad nauseam,* the administration of digitalis in heroic doses; all of which methods still have their advocates, and yet to-day these are for the most part abandoned. Of course, each of these measures has its place, and there is an occasional hour and an occasional case when one of these remedies meets the indications peculiarly well; but, according to my experience, the only drug upon which we can place any reliance is strychnine, given hypodermically and in full doses. In many private and in most hospital cases I find that it is necessary to begin the use of strychnine early, and in my hands the only limit to the dose is the sought-for physiological effect of the drug. Beginning with $^1/_{30}$ of a grain, this is repeated every two or four hours, and increased to $^1/_{20}$, $^1/_{15}$, or even $^1/_{10}$ of a grain, if the condition of the circulation demand it. At a certain point in pneumonia to allow the heart to fail is to invite, nay, to secure rapid pulmonary congestion and edema, with an early fatal termination of the case. To avoid this result we must use strychnine freely. I have often found it necessary to give minute doses of opium to counteract the irritation that the strychnine causes to the nervous system. The unpleasant effects of strychnine can thus be overcome without in any way endangering the patient from the effect of opium through depression of the respiratory center. In these larger doses strychnine is also of use in assisting elimination; the purgatives and diuret-

ics thus become more effectual. As to the nervous system, it should be guarded by allowing the patient every possible opportunity of rest. The baths, the nourishment, the medication should as much as possible be administered at about the same time, so that there may be the longest practicable interval for composure. Sleep may be favored by the ice-bag to the head and by chloralamid or Dover's powder. As a rule, the patient should not be wakened for any purpose; but if he sleeps beyond the expected hour, the nurse should be ready the moment he awakes to prevent depression, restlessness and discouragement, by the prompt administration of nourishment, strychnine, and if necessary other stimulants. This is a practical point which seems to me of considerable importance. As to the efficacy of antitoxic serum in counteracting the toxemia, although I have had some experience with it, I am not prepared to give an answer. I am inclined to think that it possesses some value in that direction, but feel that there is danger in expressing an opinion upon insufficient data.

We have now to consider another side of the treatment of lobar pneumonia, and that has to do not so much with the effects of the toxemia upon the other parts of the organism as the effects of the direct infection upon the tissues of the lungs. In other words, we are not yet in a position to look upon pneumonia solely as a systemic disease, but must remember that it is also a local process; and, in some cases, the local process outweighs in importance that which is systemic. I am convinced that the safest method of treatment is one which takes cognizance of this quality of processes in pneumonia, and which directs its therapeutic measures not only toward protecting the patient from poisoning, but also in saving him from the danger that comes, sometimes very suddenly, in hepatization and in the congestion and edema of the lungs.

It is a source of satisfaction to me when I find the hepatization of one lobe appearing early in the course of the disease. Those cases in which the consolidation is delayed are apt to be more toxic, and when the organ finally becomes hepatized it is likely to be associated with more collateral congestion and edema than in the former class of cases. I do not wish to imply that early in these delayed cases the lung has escaped the effect of the disease; on the contrary, it is probable that in the beginning of the attack the lung is in a certain sense crippled, even though the physical signs of serious involvement are absent. If in one of these toxic cases, in which the consolidation is delayed, one will carefully auscultate the chest, he will find that there is evidence of disturbance of the air cells in the very beginning of the attack. The character of the vesicular murmur is changed to some extent. It loses the soft, breezy character of pure vesicular breathing, the quality is somewhat harsher, while at the same time the vesicular element is feebler. It is highly probable, as suggested by Dr. Eugene Wasdin, that the immediate result of the pulmonary infection, associated with the local effect of the toxin, is to diminish the natural tissue-tone, leading to a condition in some of the alveoli that approaches atelectasis. This is a condition which is almost universally seen early in the lung of influenza. I do not mean to infer that it appears to the same extent in the very beginning of lobar pneumonia, but I am satisfied that the same process does exist to a certain extent; and this preliminary change may antedate by several days the classical congestion and succeeding hepatization which we so well understand.

M. Variot, before the French Société de Pediatrie (*Bulletin Médical*, Nov. 17, 1900) stated that those patients who present the general symptoms of pneumonia, but in whom there is absence of physical signs, may nevertheless be found by means of the radiograph to have a local process already established as shown by the faint shadow which deepens as the lungs become consolidated.

By careful and repeated examinations, we may be able to predict very early in the disease which lobe is likely to follow the first onset of consolidation, even when that process is considerably delayed. I am not aware that we have as yet means at our command for combating this first impression made upon the lung tissue; but I am convinced that there are measures which, if intelligently applied, will often succeed in postponing the hepatization from twelve to twenty-four hours, which postponement occasionally means everything in the ultimate outcome of the case. It is not to be supposed that the claim is made that consolidation of the lung in lobar pneumonia can be prevented. I am not at all sure that, even if possible, such would be a desirable achievement. As before stated, it is a source of gratification to find the early and frank consolidation of a single lobe of the lung. Not knowing all the secrets of biological chemistry, we may not explain why this early consolidation is desirable. However, after the involvement of, let us say, the lower lobe of the right lung, one feels uncomfortable to find the evidence of approaching consolidation in one of the lobes of the left. It is just at this particular juncture that it seems to me important to delay or, if possible, to prevent the consolidation of the second lung. It would be very difficult to prove that one has actually prevented pulmonary consolidation when the process has begun, and yet I am confident in the belief that this is sometimes actually accomplished, and I feel certain that consolidation can be postponed.

Let us suppose we have reached the fifth day of the disease, with the middle and lower lobes of the right lung involved, the patient showing markedly the depressing effects of the toxemia, the action of the heart requiring us to use strychnine freely, when physical examination reveals a marked and somewhat abrupt decrease in the vesicular breathing in one of the lobes of the left, with slight loss of resonance upon percussion; examination an hour later reveals the increase of these physical signs with breathing

of the broncho-vesicular character, or even a quality that merely suggests bronchial breathing. Now, if we translate these physical signs into the concept of the physical condition which they represent, we will find that the tissues of the lungs are relaxed, many of the air cells in a state of atelectasis, marked engorgement with blood, cloudy swelling beginning in the epithelial lining, and inflammatory exudate actually taking place. In other words, here is the early stage of congestion. Doubtless there will soon be consolidation, and double pneumonia on the fifth day is likely to result in death. If the process in the left lung can be postponed for twenty-four hours, there is the possibility of beginning resolution in the lobe first attacked and, therefore, the prospect of more available breathing space; or, if it is impossible to prevent the oncoming consolidation in the second lung, it may be possible to lessen the extent of involvement in the lobe and thus spare to the patient available breathing space.

There can be no question, it seems to me, about the desirability of this postponement of the consolidation of the second lung, and in the limitation of the pulmonary area involved in the process. The question is, can it be accomplished? I repeat that I believe it can be. To begin with, we should take advantage of the constitutional measures already described. It is a good time to give an additional dose of calomel, to press the hot foot-bath, to support the tissues by an increase in the strychnine, and then to resort to the local measures that may decrease the pulmonary congestion. The most useful measures are to withdraw from four to six ounces of blood from the arm, and then to use dry cupping very thoroughly over the threatened area. By dry cupping is not meant the usual feeble efforts that often parade under that name. It is intended that the cups should be large, that the suction should be strong, and that a very decided impression should be made upon the soft tissues. A few hours after that procedure the auscultatory sounds over the newly-affected area will be better rather than worse, and we usually find a more generous vesicular element in the breathing than was present before. Where this slight bleeding from the arms seems inexpedient because of a violent prejudice in the family against it, I have seen a fairly-satisfactory result follow the application of eight or ten leeches applied closely together along the posterior axillary line. The larger withdrawal of blood is almost invariably followed by the cessation of the advancing consolidation, but there are undoubtedly objections to a very generous venesection, and yet I should not hesitate to withdraw from twelve to sixteen ounces of blood where the congestion is sudden and intense, and by this measure I am sure that I have seen several lives preserved. But that is not the plan now under consideration. The idea, as has been stated, is to prevent a new focus of consolidation, and realizing that we may have to repeat the maneuver within a few hours, it is worth while to conserve the blood by withdrawing no unnecessary amount. Experience teaches that a small bleeding, associated with the cupping and the constitutional measures described, will often prove sufficient. The special hour in the course of the disease in which this treatment seems to be most desirable is when the crisis may reasonably be expected to appear within forty-eight hours, and when we feel that, if within the next twenty-four hours the second lung becomes seriously involved, the right heart will fail and the patient lose ground. Just here I urge that the adequate bleeding and prompt and thorough dry-cupping, to be followed by liberal inhalations of oxygen, will tide the patient over the imminent danger and afford time for expected crisis.

Occasionally we see one of those odd cases that Wunderlich called "wandering pneumonia," in which consolidation appears first in one lobe, then in another, until, in its career, all lobes of the lungs may sooner or later be involved. I have actually known one lobe to be attacked the second time, and have seen these cases continue even into the third week. In these cases it is my firm belief that I have seen the approaching consolidation of one lobe aborted—the process retiring from the lobe subsequently to appear in another lobe that had hitherto given no sign of involvement. Admitting the possibility of misconception as to the real facts of the case, nevertheless one is privileged to draw some conclusions from repeated clinical experience in carefully studied cases.

Lobar pneumonia is a disease that needs the almost constant presence of the attending physician. This, of course, does not apply to the simple cases that have from the first a tendency toward recovery; but in the grave cases which give us a large percentage of mortality. If we are to attain success it must be by constant vigilance and attention to small things. A definite idea of what is sought to be accomplished is usually all that is needed to enable the physician to gain the consent of the patient and friends to take the necessary steps in the treatment. There are still many people who object to the loss of a drop of blood if it can be avoided; and, surely, there is reason to be suspicious of a man who loudly proclaims that he believes in treating pneumonia by blood-letting. I am sure that that doctrine should pass, if it has not, into deserved oblivion. The plea here made is not for the treatment of pneumonia, as a disease, by blood-letting, but for the postponing of one of the local manifestations of the affection and thereby assisting Nature to bring about the favorable crisis and to allow the patient to recover.

The question of counterirritation deserves careful consideration. It is a form of treatment now generally discarded, and yet there is one particular condition in which I believe it to be of use. I refer to cases in which there is delayed resolution. Several times I have seen immediate improvement take place in a lobe that had

resisted other measures of treatment after the application of a large fly-blister. Several times when it seemed to me that softening of the lung tissue was inevitable, complete recovery was apparently brought about by this old-fashioned method. I am convinced that we are not yet in a position to dispense absolutely with counter-irritation in pneumonia. Finally, experience teaches me that the great fatality of senile pneumonia is mostly dependent upon the unusual toxemia present in these cases, because of the inadequate functional activity of the organs of elimination. If, with stimulating, we at the same time sweat the patient and assist hepatic and renal secretion by proper means, our results will be strikingly better.

ON THE ROLE OF THE PROSTATE GLAND IN GONORRHEA.

BY FREDERIC BIERHOFF, M.D.,

OF NEW YORK;

ASSISTANT ATTENDING SURGEON, DEPARTMENT OF GENITO-URINARY DISEASES, UNIVERSITY AND BELLEVUE MEDICAL COLLEGE; FORMER ASSISTANT, DEPARTMENT OF GENITO-URINARY DISEASES, BERLINER ALLGEMEINE POLIKLINIK, BERLIN, GERMANY.

THE crux in the treatment of gonorrhea is the extension of the inflammatory process to the posterior urethra, and there is, perhaps, no other condition so frequently responsible for the persistence of a gonorrheal urethritis as an involvement of the prostate gland. In spite of every precaution, on the part of both physician and patient; in spite of the use of the most approved methods of treatment, some of the cases which enter treatment as uncomplicated cases of anterior urethritis will drag on, week after week, for months, or sometimes even years, with varying degrees of discharge, and still showing gonococci. One form of injection, or of internal treatment, is tried after another, and, in the end, the discharge may be reduced to a mere trace of moisture, and the patient be discharged as apparently cured, or he becomes disgusted, and gives up all treatment, trusting to good fortune and to Nature for a cure. In either case it is seldom long before a fresh outbreak of purulent, gonococcus-bearing discharge appears, following upon indulgence in alcoholics, or intercourse, and then a "fresh gonorrhea" is diagnosed, and the same round of treatment repeated.

Wherein lies the cause of this protraction of the disease; why does it occur; how may it be avoided, and, finally, how may the disease be cured? In the correct answer to these questions lies the entire secret of the success or failure of the treatment.

If we follow the course of a series of cases, treated either by internal, or by direct, urethral medication, we find that, in a large percentage of these, the process extends to the posterior urethra. Different authors give varying percentages of posterior urethritis; thus Leprevost (1884) saw it in one-sixth of his cases, Eraud (1886) in 80 per cent., Jadassohn (1889) in 87.7 per cent., Letzel (1890) 92.5 per cent., Rona (1891) 62 per cent., Phillipson (1891) 86.6 per cent., Rona (1892) 90 per cent., Dind (1892) 93 per cent., Ingria (1893) 59 per cent. These differences in percentages are, no doubt, due to different methods of examination employed to determine the existence of a posterior urethritis, as Finger points out. The last-mentioned, in his book, stated that he has found it present in 63 per cent. of his private patients, as against 82 per cent. in his dispensary clientèle. In a more recent publication (1900) he states that this complication occurred in about 40 per cent. of the cases which he had treated with protargol, and in 27 per cent. of those treated with largin; or, together, an average of 33.5 per cent. Frank (1900) met it in 32.25 per cent. of his Poliklinik cases of gonorrhea.

If we consider the anatomy of the posterior urethra, we find that we have to deal with a far shorter canal than the anterior, and one which, unlike the latter, is not rich in lacunæ and glands. In fact, as Frank states, and to all intents and purposes this is true, it is connected only with two larger sets of glands, Cowper's and the prostate. Therefore, while in an anterior urethritis the numerous lacunæ and glands are the most frequent seats of protracted inflammation, the process must, in posterior urethritis, in the greater proportion of cases, become a cowperitis, or prostatitis. Of these the former is a relatively rare complication, the latter, on the other hand, very common. Finger states: "A catarrhal, glandular prostatitis is regularly a complication of acute posterior urethritis." He might have added that this is the condition also in the subacute and chronic cases. Sigmund is of the opinion that every gonorrhea of several weeks' duration is followed by a swelling of the prostate, at times marked, which does not subside after the cure of the blennorrhea. Montagnon and Eraud state that infection of the prostate is present in 70 per cent. of the cases of urethritis posterior. Von Frisch says: "It is most probable that hardly a single acute posterior urethritis runs its course entirely without implication of the prostate gland." Goldberg (Köln) believes that one-third to one-half of all gonorrheas affect the prostate. Pezzoli found the gland affected in 80 per cent. of his cases, Colombini in 28 per cent. of his acute and 40 per cent. of the subacute or chronic gonorrheas. Frank states that by far the largest number of chronic and latent gonorrheas are due to foci of infection in the prostate. More recently he reports the result of a series of investigations covering 210 cases of posterior urethritis. In all of them, or 100 per cent., there were evidences of prostatic involvement.

Of 151 cases of posterior urethritis coming under my own notice (in part during my service at the Berliner Allgemeine Poliklinik, in part occurring in private practice) I found the prostate involved in the entire 151 cases, in other words, in 100 per cent. Of these cases, 111 came under treatment with the prostatitis already present; in

40 it developed during the course of the treatment.

Of the 151 cases, those which had been previously treated numbered 71 cases; untreated, numbered 47; unknown whether treated or not, 33. The disease was a first attack in 64 cases; second, or further attack, in 70; unknown, in 17 of those examined.

This complication is said to occur usually about the third week of a gonorrhea. In this series of cases it had lasted less than one week in 32 cases; one to two weeks in 25; two to three weeks in 19; three to four weeks in 12; over four weeks in 51; unknown duration in 12. Therefore, in 57 cases, or almost 38 per cent., it occurred within the first two weeks, and in 32, or over 21 per cent., within the first week.

Causes.—Various theories have been advanced to explain the occurrence of this complication. The opponents of local treatment claim that it occurs through the forcing backward of the germ-bearing discharge into the posterior urethra by the fluid injected. If that, and that only, were the cause, then among those cases untreated locally, or treated by internal medicines alone, we ought never to meet with a case of posterior urethritis. But we do.

In the cases I quote, the treatment had been local antiseptic in 17 cases; local astringent in 21; local, of unknown nature, in 15; internal alone in 10; internal and local antiseptic in 3; internal and local astringent in 5; untreated in 47; unknown whether treated, or not, 33. Thus 57 had been untreated, or treated only by internal medication, and 61 treated locally alone, in various ways, or locally and internally. In other words, the balance was fairly even.

It seems to matter little what form of treatment is employed (though I incline to the view that, with the proper application of the newer gonococcicide remedies, the percentage of cases which develop posterior urethritis and prostatitis will be much reduced, and that, while the form of treatment may have a bearing among the causative factors, it is not the sole cause, nor even the principal one. That must be sought elsewhere.

Any condition or measure which produces congestion of the deeper urethra, or which forces the living germ into the posterior urethra and the ducts of the prostate, favors the development of posterior urethritis and prostatitis. Among those usually given are excesses in drink or in venery; severe, forced movements, such as long marches, horseback riding, bicycling, constant sedentary occupation. Straining in lifting, etc.; local irritants, such as forcible injections of astringents; catheterism, passage of sounds, etc. In considering the causes, however, we must differentiate between the exciting and the predisposing. The exciting is in all cases the entrance of the gonococcus into the posterior urethra and prostate; the predisposing, any condition (usually a congestion) of these parts which favors the development and multiplication of those germs which have entered them, with the causes which brought this condition about.

The infection may spread either by a direct extension of the inflammation to the posterior urethra, and thence, by way of the ducts of the prostate, to the gland itself, or by way of the circulation or through the lymphatic system. Of these the first is considered to be by far the most frequent. How great a rôle the second and third play must still be proven.

While it is true that the compressor urethræ muscle separates the urethra into two divisions and forms a natural barrier to the regurgitation of pus from the anterior into the posterior portion of the canal, I doubt whether it offers an insuperable obstacle to the direct extension of the infectious process along the mucous membrane. The principal factor in the prevention or the permission of extension of the process into the posterior urethra is, I believe, not chiefly the muscular action of the compressor, but the condition of the urethral membrane at and posterior to it prior to and during the existence of gonorrheal urethritis anterior. If there has been an inflamed or congested condition of this portion of the canal prior to the infection of the anterior urethra, I believe that the process will almost invariably extend over into the posterior urethra and thence to the prostate, and this irrespective of the form of treatment that may be employed. Naturally, too, if under these circumstances instrumentation be employed without gonococcicide precautions, infection of the posterior urethra must almost invariably occur. Anything, therefore, which favors or causes congestion of the urethra increases the suitability of the culture-medium for the development of the gonococcus and invites direct extension of the process along the surface of the congested mucous membrane or extension by way of the interepithelial spaces, or subepithelial lymph-channels, to the membrane of the posterior urethra.

In the prostate, too, as gonorrheal prostatitis regularly follows the development of a posterior urethritis, any pre-existing congestion opens the way for an extension to it of the infection from the urethral canal. This I believe to be the true inwardness of the influence of the numerous causes related by writers upon this topic, *i. e.*, they produce congestion, either acute or chronic, of the urethra, or the prostate, or both. But just as the existence of congestion of the prostate is potent as a predisposing factor in the development of gonorrheal prostatitis, so, also, is the presence of foci of catarrhal inflammation in the gland. In the examination of the prostate in a large number of cases of gonorrhea before the institution of any treatment and irrespective of whether the process involved the anterior or posterior urethra, and also in numbers of patients free from gonorrheal disease, but presenting other symptoms referable to the genito-urinary system, and in still others apparently well and presenting no symptoms whatever referable to these organs, palpation of the gland has led me

to believe that a large percentage of adult males, whether they have suffered from gonorrhea or not, present catarrhal changes (follicular or endoglandular prostatitis) which are distinctly appreciable to the examining finger. Palpation of these suspected glands reveals localized areas of distinct softening in the otherwise normal tissues. Pressure thereon produces a thin, milky to yellowish-milky fluid, which has the characteristic odor of prostatic fluid, and under the microscope shows the characteristics of this fluid, *plus* a few cylindrical epithelia, and at times isolated leucocytes. These foci of catarrhal change, chronic in character, form a *locus minoris resistentiæ* and offer the best site for the further development of the gonorrheal process. Similarly, in those of my previously-examined cases in whom, later, a posterior urethritis developed, as also in those in whom it was present and who had not been previously examined, the foci of prostatic infection were regularly found to be these areas of softening, and massage thereof brought gonococcus-bearing pus in the prostatic fluid to the surface. Finally, endoscopic examination in a number of the non-gonorrheal cases which presented symptoms referable to the urethra revealed a more or less congested, exquisitely sensitive mucous membrane over the entire canal, but more marked in the deeper portions.

Questioning of the individuals examined invariably revealed a history of preceding addiction to masturbation, or coitus interruptus. These two practices I believe to be the chief factors in the production of areas of catarrhal change in the prostate and chronic congestion of the posterior urethra, and these changes, again, to be the condition which predisposes their bearers to the extension to the prostate of any gonorrheal or other infection of the uretha which they may acquire. The form of treatment employed I believe to be of far less importance than the existence of these factors prior to the infection of the individual, though I firmly believe—basing this view upon the experiences of Finger, Frank and others, in addition to my own—that the rational use of the modern, gonococcicide remedies, notably protargol, is likely to greatly lessen the percentage of those who develop posterior urethritis or prostatitis. The sooner the gonococci are destroyed, the less the danger of the involvement of the posterior urethra and prostate.

The progress of the infection I believe to be as follows: Involvement of the anterior urethra; spread of the infection past the compressor through direct extension along a chronically-congested mucous membrane of the bulbous, membranous and prostatic urethra; involvement by direct extension of the ducts of the previously congested prostate; extension to the walls of the gland or to the interstitial connective tissue separating the individual lobules, or even to the periglandular connective tissue.

Varieties—These as usually given (Finger, Albarran and others) are the catarrhal, follicular, parenchymatous, and prostatic phlegmon of the acute type; further, chronic prostatitis. They do not always occur singly as typical examples of these varieties, but are frequently associated; or the one variety may merge into another.

Diagnosis—The extension of the gonorrheal process from the anterior to the posterior urethra and prostate may occur in an acute form, with decided symptoms, or its onset may be so gradual and insidious as to present no physical symptoms whatever and escape all but the most careful observation. In the former case there will be increased frequency of urination, accompanied by a greater or less degree of tenesmus. It may be preceded by a chill and accompanied by febrile movement. If the vesical neck and sphincteral margin be involved, as seems often to be the case, there may be the discharge of a few drops of blood at the termination of micturition. There may be a feeling of weight, discomfort, pressure, or even pain in the perineal region, but this is not necessarily present, however. There may be in those cases accompanied by decided increase in the size of the gland well-marked interference with micturition or defecation or both. These cases are usually of the parenchymatous or interstitial type.

In the greater proportion of such cases, however, the onset is more insidious; at times, even, as stated before, no appreciable symptoms whatever are presented. In most the first condition or symptom which presents will be more or less-marked turbidity of the last portion of the urine. In some (17 of the 151 reported in this series), however, the urine is to all appearances clear. In others the turbidity may be so slight as to escape all but the most careful scrutiny. The turbidity on examination will be found to be due to pus, and if the sediment be examined microscopically it will be found that there are present extracellular and intracellular gonococci. (I shall not here go into the merits or demerits of the two-glass test as against the three-glass test except to content myself with the statement that I have found that the former is sufficient for the determination of the involvement of the posterior urethra, provided the patient be instructed to void almost all of the urine into the first glass.) There may be nothing besides this slight turbidity of the second urine—except, perhaps, the persistence of gonococci in the urethral discharge for an abnormal length of time—to draw attention to the prostate.

Upon the introduction of the examining finger into the rectum, the gland will be found more or less changed. It may be enlarged, but not necessarily symmetrically, as one or other lobe may be more involved. In our cases, it was more frequently the left. The consistence of the gland may be changed. In the catarrhal type there will be found areas of distinct softening in an otherwise apparently-normal organ. In the follicular or parenchymatous type there are likewise softened areas, but these are surrounded by a zone of thickening or infiltration. The intersti-

tial type is usually marked by an appreciable symmetrical enlargement of the entire gland, which feels tense and elastic and is sensitive to the touch. During the later stages of this type, areas of softening develop. It is usually in this type that suppuration occurs, if it appears at all. Palpation is not necessarily painful, aside from the feeling of discomfort which the introduction of the finger into the rectum causes. In the acuter forms, however, especially in the interstitial, the gland is usually painful, becoming at times exquisitely sensitive. Goldberg (Köln) draws attention to the fact that, while in tuberculous prostatitis the softened areas are exceedingly painful on pressure, they are painless in the gonorrheal variety. Pressure upon or massage of the softened areas causes some of the contents, the more or less altered prostatic secretion, to be expelled into the ducts, and thence into the urethra, whence it usually passes to appear at the meatus. It may, however, regurgitate into the bladder to be later expelled on urination.

The method of examination which has given me the greatest satisfaction, and which I believe to offer the greatest certainty that the prostatic fluid is obtained unmixed with urethral discharge, is as follows: The patient first empties the bladder, passing the urine (in two unequal parts, of which the first is the larger) into two clean glass vessels. Hereupon the anterior urethra is thoroughly irrigated, following which the posterior part of the canal is flushed; in neither case is a catheter employed, the fluid being forced under gentle pressure into the bladder. For this purpose the hand-syringe has given me greater satisfaction than the irrigator, it being possible instantly to vary the amount of pressure. The patient again empties his bladder, this time of the injected fluid. We now proceed to gently massage the prostate, catching up with a sterilized platinum loop some of the prostatic fluid which appears at the meatus. Of this slides are then prepared for examination. Care should be taken not to make any stripping movements along the penis, in order that no urethral secretion may be pressed out of the crypts and glands to mix with that from the prostate. The free hand only steadies the penis and does not strip it. Should no fluid appear at the meatus, the anterior urethra is again irrigated, and the patient instructed again to empty the bladder. Almost invariably it will be found that he will pass a small amount of urine, collected during the interval. This is caught up in a clean vessel, centrifuged, and the sediment examined for pus and gonococci. If care be taken to irrigate the urethra, both before and after massage, and to avoid any violence in the massage itself, the danger of any ill effects from the procedure is very slight, indeed. I have, however, frequently seen carelessness, or lack of skill therein, followed within twenty-four hours by involvement of the seminal vesicles, epididymis, or testis.

In the examination of the cases reported here, various methods were employed, *viz.:* Examination of the discharge obtained after the patient had emptied the bladder and without preceding irrigation; examination after the emptying of the bladder, followed by irrigation of the anterior urethra; examination after urination, followed by irrigation of the entire urethra; examination after urination followed by the insertion of the endoscopic tube to the urethral bulb, thorough drying of the canal at the floor of the tube, massage, removal of the expressed fluid directly from the bottom of the tube; lastly, urination, irrigation of the entire urethra, insertion of the endoscopic tube, massage, and examination of the fluid thus obtained. The results obtained by these different methods were practically the same, and, as a result, I have adopted the one just described in full.

The next step is the examination of the secretion itself. To the eye it may be watery, milky, bloody, frankly purulent, or any combination of these. The odor is that of semen, since this derives its characteristic odor from its admixture with the prostatic secretion. Examined in the fresh state, it contains in the catarrhal type of prostatitis a few lecithin granules, small globules of fat, cylindrical epithelia, cell-detritus, and at times isolated leucocytes. In the parenchymatous form, the solid contents are increased, but most notably the leucocytes. There may be found, also, a few erythrocytes. In the interstitial type the erythrocytes are more numerous than in the preceding forms, while the discharge from the prostatic abscess is pure, frank pus. Stained, the specimens show in addition intracellular or extra-cellular gonococci, or both, with at times the presence of other bacteria.

In this series gonococci were present in the prostatic secretion in 127 cases; gonococci and other bacteria in 7; diplococci, but not positively gonococci in 4; other bacteria in 4; no germs in 9. In making these examinations, the watery solution of methylene blue was used, and answered all purposes. Where any doubt existed, Gram's method was employed.

Treatment.—This may be divided into prophylactic and curative. Prophylactic treatment consists of the attempt to rid our patients of the source of the trouble, the gonorrheal urethritis, in the shortest time. To do this, I believe our most valuable and reliable method is the irrigation of, first, the anterior, then the entire urethra, at first twice, later once daily, with a warm one-half per cent. solution of protargol, without the use of a catheter. This is, of course, only of use in cases of anterior urethritis. Care must be taken to avoid forcible injection. In addition to this, bed rest where this is possible, bland, yet nutritious diet, attention to the bowels, avoidance of all alcoholic drinks and of sexual excitement. I have seldom found blennorrhetics or narcotics necessary when using the gonococcicide remedies.

Should the patient come under treatment with an already turbid second urine, or should pros-

tatitis develop during the course of treatment, then irrigations alone will not cure the case. (It is true that it sometimes happens that, in cases where the prostate is involved, the urethritis appears to become cured and the discharge to diminish to a mere trace, or even to disappear; but, as soon as the patient indulges in coitus or in alcohol, there is a reappearance of purulent urethral discharge.) Therefore some other method must be employed, and this is massage of the affected gland, in addition to irrigation of the urethra. In massaging, I prefer to employ the finger, rather than any instrument, such as that of Feleki, because (1) I find it preferable to locate the foci of disease and to massage these, rather than to apply the treatment indiscriminately to the entire gland and the surrounding parts; (2) the amount of pressure to be applied can be gauged better with the finger; (3) I believe the danger of injury to the patient to be less.

The minutiæ of the proceeding I shall not describe, as they are known to most of us. I would repeat, however, that I think it wise in every case to precede the massage by an irrigation of the entire urethra, without the catheter; also that the treatment should be gently applied. Brusque or unskilful handling may, and frequently does, bring on complications in a few hours. But, although gentle, the massage should be none the less thorough, and continued until pressure expels no more secretion. Then the entire urethra must again be irrigated. At times no discharge appears at the meatus after massage, but flows back into the bladder. We may satisfy ourselves with regard to the efficacy of massage, in these cases, by an irrigation of the entire urethra. The fluid, after having passed into the bladder, is voided by the patient into a glass vessel. Here it will be found to have become distinctly turbid, and examination will show this turbidity to be due to the prostatic secretion.

Massage should be applied in every case of prostatitis which is not complicated by acute, general symptoms, such as decided febrile movement. Where fever is present, irrigations alone should be employed until its subsidence. Even prostatic abscesses which have opened into the urethra may be definitely cured by this procedure, though at times it becomes necessary to incise from the perineum. In the interstitial, or phlegmonous forms of the disease, it is well to follow Goldberg's advice, *i. e.*, better to begin massage a little late than too early.

Massage should always be accompanied by treatment of the entire urethra by the physician. It may be employed daily or less often according to the acuteness of the process and the ability of the patient to bear it. I am in the habit of employing it daily or every second day in sessions of not over two minutes. The treatment of the prostatitis should be continued, even after the definite disappearance of gonococci, until this also is cured.

An additional aid in treatment is the use of the rectal cooler, or rectal psychrophore. In the catarrhal type cold water may be employed to advantage with this instrument; in the follicular and interstitial forms, preferably as hot as the patient can agreeably bear it, in one or two sittings of from ten to fifteen minutes daily. In the later stages, as in the more protracted catarrhal cases, alternating hot and cold water during the sitting; the electrical current may also be of benefit. The urethral psychrophore should, I believe, never be employed until all micro-organisms have definitely disappeared from both urethral and prostatic secretions. Faradic electricity and massage may be combined by means of an ingenious arrangement attached to the massaging finger, constructed by Hogge, of Liege, or its modification by Frank, of Berlin.

In addition to local, general treatment is also indicated. This consists of care to avoid exposure or chilling, attention to diet and to the bowels, warm hip-baths at night; and especially tonic treatment, as patients suffering with posterior urethritis and prostatitis seem especially prone to become neurasthenics. In addition to the usual tonic drugs, hydrotherapeutic measures, general massage, and judicious exercise are of value.

Frequently, after the disappearance of the gonococci, a slight, mucous, or muco-purulent urethral discharge persists for a time. Microscopically this is found to consist principally of epithelia and mucous shreds, with a few, degenerated pus-cells. Examination with the endoscope shows reddening of the mucous membrane, with a degree of infiltration varying in extent and character according to the length of time during which the gonorrheal stage has persisted; the glandular orifices, also, will frequently be found reddened and pouting. Should a secondary infection with other bacteria occur, irrigations with bichloride-of-mercury solution are indicated. Where an aseptic, mucous discharge continues, application of the usual astringent remedies, with a course of dilatation of the infiltrates according to their degree of severity, are indicated.

Complications—From this condition any of the other usual complications of gonorrhea may arise. Most frequent, however, are seminal vesiculitis, funiculitis and epididymitis. Unfortunately, so little attention has been paid, until recently, to the relation of the prostate to gonorrhea, that reliable statistics are few with regard to the relative frequency of epididymitis as a complication subsequent to, or coincident with gonorrheal prostatitis. Frank reports 17 cases as occurring among 651 of his Poliklinik cases of gonorrhea, or 2.5 per cent of the total. Compared with the 12.5 per cent which Finger in 1896 stated was the percentage of those who presented this complication among 1,000 of his Poliklinik cases of gonorrhea, it will be seen that the proportion is 5 to 1 in favor of the modern methods of treatment. Finger, however, makes no mention of the involvement of the prostate in his cases. Of Frank's 651 cases 210 were complicated by a pos-

terior urethritis (in each one of the 210 a prostatitis), and, as this complication regularly precedes the development of epididymitis, we may figure that in his series of 210 cases of prostatitis involvement of the epididymis occurred in 17 or 8.2 per cent.

In the acuter forms of gonorrheal prostatitis, there is regularly an involvement of the neck of the bladder; and the increased frequency of micturition, as also the marked tenesmus, may entirely mask the prostatic condition. Hence it is that, in view of the turbidity of the urine, the frequent micturition and the tenesmus, the diagnosis of gonorrheal cystitis is erroneously made, when examination of the prostate would at once reveal the true nature of the complication. I doubt whether a case of gonorrheal cystitis ever occurs in the male without involvement of the prostate, and I also believe that the acute interstitial or phlegmonous type is regularly accompanied by more or less inflammation of the vesical neck. In the male no condition should ever be diagnosed as gonorrheal cystitis without a previous careful examination of the prostate.

Prognosis.—This is in the main good. Naturally, the sooner a case of posterior urethritis is diagnosticated and the involvement of the prostate determined, the sooner can a complete cure be effected. It is not at all infrequent in the milder cases of the catarrhal or endoglandular type to find that a few applications of massage will serve completely and definitely to cure the gonorrhea. The older the case the more deeply will it have been possible for the gonococci to penetrate the tissues, the greater is the interstitial exudation, and the more resistant will it prove to treatment. Therefore, in the follicular type, where the walls of the alveoli are more or less involved, it is not unusual to find that, although the gonococci may disappear within a reasonable time, the prostatitis, non-gonorrheal now in character, may persist for months. In these cases it is not infrequent for the urethritis to disappear entirely and the prostate still to show points of infiltrative change, the prostatic secretion, however, being entirely free from gonococci and remaining so, in spite of the application of all the usual tests, and containing only isolated leucocytes, in addition to some degenerated epithelia, suspended in a slightly-increased, but otherwise normal secretion. In the interstitial form, as in the follicular, the case is apt to drag over a period varying from several weeks to months. In the phlegmonous variety much depends upon the point at which the pus discharges. The most favorable course is to have the abscess rupture into the posterior urethra; rupture into the rectum gives us a more tedious and dangerous condition to deal with; most dangerous is its opening laterally, with consequent involvement of the pelvic cellular tissues. Such cases may end fatally.

Much has been said of the tendency for supposedly-cured cases of gonorrheal prostatitis to recur. No case should be discharged as cured until the prostate feels normal to the examining finger; the prostatic fluid, as well as the urethral scrapings or shreds, free from gonococci, and the first of these normal in appearance, and the last two found to consist of epithelia and fibrinous or mucous filaments. These conditions must remain unaltered upon the application of the various provocative tests, *i. e.*, alcohol, irritant injection, the passage of a good-sized sound, and, lastly, coitus with condom. Where, as is sometimes reported, gonococcus-bearing discharge appears after months of freedom from all urethral and prostatic symptoms in cases that had been properly treated and tested before being discharged, I believe the cases to be fresh infections and the denials of intercourse by the patients to be wilful lies.

In conclusion, I desire to express my sense of deep obligation to Drs. Ernst R. W. Frank and Arthur Lewin, of the Berliner Allgemeine Poliklinik, for their kind permission to make use of those of the cases which came under my observation during my service in that institution, and to the former for his valuable help and counsel in the study of the material.

717 Madison Avenue.

THE NEUROTIC ELEMENT IN INFANTILE ECZEMA.

BY JEROME KINGSBURY, M.D.,
OF NEW YORK.

ECZEMA is probably the most common, as well as the most troublesome affection of the skin that is met with in children under the age of five. At this period of life it plays a greater and more important rôle than at any other, and if negligently or improperly managed it has a strong tendency to become chronic and to persist for years. It is often so difficult to cure and causes so much agony to the little patient, to say nothing of the anxiety and annoyance to which the family must be subjected, that it is a mistake to class it, as is too frequently done, among the lesser ailments of childhood. "Only an eczema" will sometimes prove a most rebellious and annoying disease to handle and a favorable prognosis should always be withheld until a case has been under observation for some time.

During the past few years writers in the medical journals have by no means neglected the subject of infantile eczema, but the methods of treatment advocated for this most troublesome and, I might say, serious disease, have in the majority of cases been purely local. Ingenious measures for restraining the hands of the little sufferer have been suggested, and elaborate and cleverly-devised masks and bandages upon which some favorite ointment may be so spread that it will be kept in constant contact with the eruption have from time to time been advocated. But this more or less heroic treatment, for obvious reasons, cannot always be employed; and even when it is carried out under the most favorable surroundings, recovery is often very slow,

and one reluctantly realizes that a strait jacket and medicated lard will not cure all eczemas.

It is true that when the patient is deprived of the use of his hands and can no longer scratch, we can generally control the spread of the eruption and invariably eliminate the impetiginous element. It is also true that the condition of an eczematous eruption will improve when a properly-selected ointment can be satisfactorily applied. But eczema, unfortunately, is not a local disease and these measures merely modify local manifestations that are but secondary to some nerve or capillary disturbance. They cannot control the disease itself. To do this we must study the possible etiological factors and predisposing and exciting causes, and avail ourselves of such therapeutic aids as may be rationally suggested thereby.

It is useless to look for a specific for this protean disease for there is none. No one preparation no matter how "good for eczema" or how satisfactory it may have been in certain reported cases will ever give uniform results in practice. As Sherwell[1] very aptly remarks: "There is per se nothing 'good' for an eczema, any more than a color, any one or more colors, are good for a picture."

The eczemas of childhood have been divided by Unna into three classes—the tuberculous, the seborrheic, and the neurotic. A sharp line of demarcation, however, cannot always be drawn between these forms of the disease. One often laps over upon the other. The impetiginous element or so-called tuberculous eczema is frequently engrafted upon a skin in which erythematous, papular, or seborrheic lesions previously existed. Nerve irritation, or disturbances of the nervous system, not only serve as important etiological factors of the disease, but will to a considerable extent intensify the severity of an already existing eczematous eruption of whatever type.

Although not inclined to admit the existence of a purely neurotic eczema, it would, we feel, be admissible to recognize by this designation, at least for clinical convenience, that form of the disease in which the nervous element is most marked or where it seems to be the prominent exciting or predisposing cause of the eruption. A clear understanding and appreciation of these causes will aid us very materially in the treatment.

Generally speaking, the neurotic elements that contribute to make infantile eczema the formidable disease that it frequently is are caused by reflex neurosis, and can be divided into gastro-intestinal, sexual, and local nerve irritation.

That type of nerve strain and exhaustion so often observed in adults suffering with eczema, is seldom, if ever, encountered in children under five years of age.

Of local nerve irritation, that of teething infants is the most strikingly evident. Hebra denied that this has anything to do with the eruption, but it is a factor of no small importance. It may be true that dentition itself never produced a true eczema; still there is no question that in many cases with the eruption or rather attempted eruption of each new tooth an eczema has become greatly aggravated. Occasionally, indeed, in such cases there has been a recurrence of the disease in a patient supposed to have been cured.

Dentition, however, plays a much less important rôle than iritation from the alimentary canal. This is probably the most frequent factor in the majority of cases, for the disease often starts in children one or two months old. The catarrhal condition of the entire gastro-intestinal tract caused by the imperfect and faulty feeding, of which infants are too often the victims, is much oftener the cause of the skin trouble than is physiological dentition.

The quantity and quality of food frequently administered to infants is sometimes almost beyond belief. When questioned as to what nourishment a child of eighteen months, suffering with extensive eczema, is receiving, the most frequent answer that I have received from the mother is: "Oh! He gets the same food that we do," and they will often add, "and he is always hungry, too." Then with a little cautious questioning the information is generally elicited that our little patient is in the habit of dining at the table with the family where his share of the meal will consist of all the steak, corned beef or sausage with potatoes or cabbage that he will eat. This will be followed by a cup of tea or coffee (always a large one and sometimes two) or a "sip" of beer. The time between meals is employed by munching a cracker, doughnut, or whatever is known by experience to keep him most quiet.

Stomachs and intestines that have been abused and overloaded for months cannot be restored to health in as many days. Our duty does not end with advising a proper dietary and the administration of calomel or gray powder. Such cases must be under observation and have judicious regimen as well as medication even after the eruption has entirely disappeared.

Nor does the breast-fed infant always escape. Too often is the mother's milk of unsuitable quality and it is just as necessary to correct her habits and administer suitable medication as it is to treat the child. The large amount of tea sometimes taken by women nursing children with eczema should be reduced to the minimum and the beer and ale that they had been consuming with the mistaken idea that they were improving the quality of their milk should be absolutely prohibited.

The possibility of pin-worms in the rectum and occasionally in the vagina should be considered and a careful examination of the penis, and also of the clitoris, should always be made.

The influence exerted upon the eruption by a phimosis or by masses of calcified smegma that bind the prepuce tightly to the glans can only be realized when we observe the marked improvement that will invariably follow when these con-

[1] "On the Effect of Topical Applications of Excessive Strength and Improper Diet and Hygiene in Prolonging and Causing Skin Diseases in Infants and Young Children," Medical Record, Jan. 5, 1901.

ditions are corrected. Not infrequently the clitoris will be found under some constriction which should be removed.

Very often parents are unwilling to have their babies circumcised and one naturally feels a certain hesitancy in advocating an operation upon the genital organs for the relief of a disease of the skin, lest to the lay mind it might suggest the methods of charlatanism or might needlessly be foisted upon a patient who has troubles enough as it is.

In many cases when there is no constriction of the prepuce an operation can be avoided and the condition relieved by the introduction under the foreskin of a well-oiled probe that can be swept around the entire surface of the glans and the adhesions broken up, after which the prepuce can be retracted and the smegma cleaned out. In cases, however, where there is a marked constriction, and where the foreskin cannot be retracted, a circumcision should not only be advised but insisted upon. I am convinced by observation of many cases that it is the best course to pursue in the interest of the sufferer.

In all cases the necessity for the removal of the exciting cause is clearly indicated, not only to cure the present eruption, but to protect the patient from attacks in the future. After this has been accomplished the benefit derived from remedies that had previously seemed impotent will often be most gratifying.

MEDICAL PROGRESS.

EYE, EAR, NOSE, AND THROAT.

Amblyopia Due to Bay-Rum Drinking.—The idea has been entertained that wood alcohol was the toxic agent in cases of amblyopia following the drinking of essence of Jamaica ginger and similar preparations, which are often substituted for whiskey. H. MOULTON (Jour. Amer. Med. Assoc., Nov. 30, 1901) has observed the close correspondence of symptoms in cases of poisoning from drinking bay-rum and believes the toxic agent is the same in both cases. Ordinary wood or methyl alcohol is too disagreeable in odor and taste to lead to its ingestion *per se*, but under the name of "Columbian spirits," the objectionable features are removed, so that its use becomes possible and as such it is often an ingredient of the preparation already mentioned. It is important therefore to make a diagnosis from the symptoms, which are at first a gastro-enteritis when the dose is small and coma when it is large, followed by rapid failure of sight, which may improve but soon relapses; contraction of the fields of vision; central scotomata, and sometimes total blindness. These are symptoms of retrobulbar neuritis, but contrary to the usual variety seldom recover. Probably no other substance when swallowed selects for attack with such uniformity the optic nerve and retina as methyl alcohol.

Action of the Pupil in Severe Optic Neuritis.—If one of a normal pair of eyes be covered a slight dilatation of the pupil of the exposed eye occurs. This physiological dilatation has been carefully measured by J. HIRSCHBERG (Berl. kl. Woch., Nov. 25, 1901), who expresses it as averaging 1 mm. in a moderately large pupil of 3 to 4 mm. Sudden complete interruptions of the function of the optic nerve of one side may occur early in the course of an acute inflammation, the ophthalmoscope showing at this time a normal fundus. If now the normal eye be covered the pupil of the diseased side dilates very widely; it does not contract when strong light is allowed to enter the diseased eye but promptly contracts when light enters the opposite or healthy eye. The presence of this abnormal dilatation and only indirect contraction is a positive sign of complete blindness in one eye. In the absence of this reaction some condition other than blindness must be assumed to be present, and hysteria and malingering must then be considered.

OBSTETRICS AND GYNECOLOGY.

Treatment of Abortion.—A terse summary of the recent advances in the treatment of abortion is a boon for which all practitioners may well be grateful. C. B. REED (Medicine, Dec., 1901) lays down the laws of modern practice in a manner which has the merit of being definite and concise, even if somewhat arbitrary. Upon the treatment of threatened abortion he has nothing new to offer. When abortion is inevitable or incomplete, the indication is, of course, to empty the uterus. Before the sixth month the finger may be used in all cases except those in which it is unable to penetrate the os or to reach the fundus; the curette is especially indicated in these latter cases, but may be used, if the operator prefers, in the other cases alone. After the sixth month, the curette is a dangerous instrument, owing to the softness of the uterus, and only the finger should be used. After curettage no tampon is necessary, as the uterus drains better without it. Abortion may be induced or completed by tamponade of the vagina, but after the sixth month tamponade should invariably be accompanied by packing of the uterus, since the organ is by this time so large that the woman may bleed to death into its cavity. Septic processes contraindicate tamponade. The use of the antiseptic douche is absolutely proscribed, inasmuch as it not only fails to sterilize the parts, but actually removes the protective secretions of the mucous membranes. After curettage for septic endometritis, a douche of hot one-per-cent. lysol solution should be used. The introduction of styptics into the uterine cavity is unnecessary and always harmful; iodine is the least objectionable. Upon the use of ergot, the treatment of anemia and of shock, the after-treatment of abortion, and, above all, the importance of asepsis, the author is in accord with the generally-received theories and methods.

Pelvic Arthritis of Puerperal Origin.—The modifications which occur in the pubic and sacro-iliac symphyses during pregnancy render them more susceptible to infection during this period and immediately afterward than at other times. P. A. LOP (La Presse Méd., Nov. 23, 1901) describes the case of a woman who had passed through a difficult labor. In attempting to rise seventeen days after confinement the patient was astonished to find that she could neither stand nor sit; micturition became extremely painful and defecation could be accomplished only with difficulty and solely in the recumbent posture. Vaginal examination revealed extreme tenderness over the sacro-iliac synchondroses with abnormal mobility. There was evidently relaxation and inflammation of the articulations. In addition exquisite tenderness was present at the symphysis pubis, the articulation being enlarged and the vaginal vault exematous. The case was treated by silicate fixation; a double spica of the groin was well tolerated by the patient, who after a short previous trial had objected to a plaster girdle. In order not to misinterpret puerperal pains in the genital region, one should examine not only the pelvic organs, but the articulations of the pelvis. In sacro-coccygeal arthritis tenderness and pain

are in the median line at the base of the coccyx. Coxofemoral arthritis produces pains in the knee and at the heel, as well as at the site of the disease; puffiness of the external periarticular tissues is sometimes observed, with enlargement of the glands in Scarpa's triangle. Uterine displacements and vesical disease must be considered before a diagnosis of disease of the symphyses is made.

Congenital Anteflexion and Sterility.—The prognosis to be given in a case of sterility due to anteflexion is the subject of a paper by A. BOURSIER (Jour. de Med. de Bordeaux, Nov. 24, 1901). The childless state of sufferers from this form of displacement has been variously attributed to the mechanical obstruction to fecundation, metritis, or to both. The persistence of sterility in patients with marked anteflexion and indications of inflammation of the uterus and adnexa may be pretty positively affirmed, especially if, in addition, the uterus presents a very small orifice and conical neck. On the other hand, where the anteflexion is but little more than an exaggeration of the normal anteversion, the menses are regular and painless, and no indication of metritis exists, the probability of impregnation may be asserted. All signs fail in a certain proportion of cases in both extremes, as well as in intermediate forms. In a class by itself, however, lies the uterus which is congenitally anteflexed and presents signs of arrested development. It is probable that the infantile form of such a uterus plays an important part in the sterility which accompanies congenital anteflexion. To this condition the term "puerile anteflexion" might be appropriately applied. The prognosis in such a case is necessarily unfavorable; for, whereas appropriate treatment might rectify mechanical obstruction or control inflammatory processes, there are no therapeutic measures which can overcome an incomplete development, or lend to the infantile uterus the anatomical and physiological qualities of the fully-developed organ.

MEDICINE.

Mosquitoes and Malaria in New England.—In a summer's observations in New Hampshire and Maine by E. O. JORDAN (Trans. Chicago Pathological Society, Nov. 11, 1901), *Anopheles* larvæ were never found in large numbers except in unshaded waters and in meadows bordering small streams. Malaria has never been known to originate in these regions. The filter-basin waters, however, which intercept the ground water on its way to the rivers, and which supply many New England towns, are rich in nitrates and algæ, and are especially favorable to the development of *Anopheles*. Accumulations of surface water do not furnish proper pabulum for this malaria-breeder, but the organism finds abundant food at the bases of water-sheds where the ground water comes into contact with light and air. Malaria, therefore, prevails along river bottoms and sea-coasts.

Technic of Widal Test.—One of the inconveniences experienced in the technic of the Widal test is the length of time necessary to obtain a suitable culture. The bouillon or agar culture of the typhoid bacillus used has required eighteen to twenty-four hours' incubation, dating from the time that the transplant was made. C. W. DODGE (Jour. Applied Microscopy, Dec., 1901) has devised a method by which this time may be materially shortened. The essential point in the method is that the culture should be started in warm broth. This is accomplished by heating the culture, immediately after transplantation, in the flame of a Bunsen burner until the test-tube feels comfortably warm to the hand. A tumbler is heated still hotter than this. The test-tube containing the culture is then placed within the tumbler and thus incubated from six to eight hours. At the end of this time it is ready for use. It is well at intervals during the incubation to remove the tube from the incubator and lightly tap it with the finger. In this manner the denser growth at the bottom is thoroughly mixed with the upper portion of the broth.

Differential Leucocyte-Count in Hydatid Cysts of the liver.—Hitherto the diagnosis of hydatid cysts of the liver has presented considerable difficulty. Exploratory puncture has been necessary in many cases. This procedure is not wholly desirable as frequently serious consequences have resulted therefrom. DARGEIN and TRIBONDEAU (Comptes Soc. Biol., Nov. 22, 1901) report observations with respect to the leucocyte-count in this condition. A hyperleucocytosis is present often amounting to 15,000 or 16,000. There is a marked increase in the number of eosinophiles. These elements often constitute 12 per cent. of the total number of leucocytes. The polynuclearneutrophilics are diminished in number, constituting from 60 to 65 per cent. of the total leucocyte-count. These blood appearances associated with enlargement of the liver are characteristic of hydatid cyst of this organ and by their means abscess and malignant growth can be easily excluded. It is thought that this method of diagnosis should be uniformly used to the exclusion of puncture.

An Undiagnosed Heart Lesion.—A girl, aged thirteen years in November, 1900, presented the following physical signs: Bulging of the precordium, a heaving, forcible cardiac impulse, a diastolic thrill at the second left interspace one inch from the sternum, great increase of cardiac dulness to the left and upward, and a diastolic, loud, rough murmur over the site of the thrill and transmitted to the left only, with a very loud pulmonary second sound. The diagnosis suggested were aortic regurgitation, congenital stenosis of pulmonary artery, and mediastinopericarditis. G. G. CAMPBELL (Montreal Medical Journal, Nov., 1901) records an examination made on August 22, 1901, two weeks before death, as follows: No cyanosis, heart slow, beats forcible, precordium prominent, impulse heaving, the fourth interspace rising, the third and fifth falling with each systole. Well-marked diastolic shock and thrill over first and second left interspace. Absolute dulness extends to second rib above, to half an inch to right of sternum, and five and a quarter inches to the left at the level of the fourth rib. At apex both sounds are clear, though the diastolic murmur is transmitted from the base. The pulmonary second sound is extremely loud, followed by a loud, rough, systolic murmur which can be heard all over the upper part of the front of the thorax. The lungs are clear. The autopsy showed large heart, weight 300 grams, normal valves, auricles slightly dilated, right ventricle greatly dilated and hypertrophied, left ventricle smaller, so that on casual observation the left ventricle would be called the right. The right ventricle shows intense mural *sclerotic endocarditis*, many of the columnæ corneæ being completely fibrosed, Coronaries small but healthy looking. No apparent lesion of lungs or pulmonary artery to account for signs at pulmonary area.

Intraspinous Injection in Tetanus.—The various methods for introducing tetanus antitoxin into the system having yielded only fair results, N. D'ANCONA (Gaz. d. Osped. e. d. Clin., Nov. 24, 1901) has sought a method which would be at once efficacious, safe, and rapid in its effect upon the nervous system. Intraspinous injection has, in his experience, met these requirements. The details and results of treatment in two successful cases are given; a description of one

suffices for both. After administration of chloroform, lumbar puncture was practised by means of a Roux syringe, 10 c.c. of the serum being injected. The immediate effect was an increase in the frequency and intensity of the spasms, but after a few hours there was noticeable improvement. Four injections of 10 c.c. each were given, with an interval of two or three days between each administration. After the second, fever subsided, convulsions occurred but rarely, and only a slight muscular rigidity was noticed. The third and fourth injections were followed by even more marked improvement, so that, by the ninth day all symptoms of the disease had disappeared, and convalescence was fully established. Noticeable features in both cases were the initial increase in the severity of symptoms after the first injection, with rapid subsidence a few hours later, and the early cessation of fever. The wound was excised in both cases.

Antipneumococcus Serum.—In testing the value of antipneumococcus serum in the treatment of pneumonia G. G. SEARS (Boston Med. and Surg. Jour., Dec. 19, 1901) endeavored to select cases in which treatment seemed likely to modify the outcome; all in whom death seemed a necessary consequence, as well as those whose youth and good habits made recovery probable, were excluded. In addition to the serum treatment other methods were applied, as cold sponge for temperature, oxygen, alcohol and other stimulants where they seemed necessary. Four patients out of twelve died, showing no apparent change in the mortality-rate. The duration of the disease in the cases receiving the serum treatment was about the same as in any series of cases not so treated. An extension of the process after the use of the serum was noticed in three cases. No appreciable influence on the fever could be discovered.

Newer Methods for Determining Renal Insufficiency.—It has been questioned whether cryoscopy and the employment of methylene blue and of phloridzin represent any real advance in the clinical diagnosis of renal insufficiency. J. KISS (Berlin klin. Woch., Dec. 2, 1901) has carefully analyzed these methods and is not enthusiastic over their value. In the first place the physiological limits of the reaction to phloridzin injections are not fully established. Apparently normal reactions are at times obtained, as in cases cited by the author in urines which contain considerable albumin. Where pathological processes are present in the neighborhood of the kidney the latter may secrete a diminished number of molecules in solution. A temporary diminution of renal function may be reflex and may not signify at all a loss in functional power. In regard to methylene blue and its elimination as a test of renal sufficiency, it is necessary to remember that cases of uremia have been reported in which the methylene blue test failed to show any disturbance of renal function; while, on the other hand, apparent departures from normal elimination of methylene blue often are noticed where the kidneys are known to be normal. The author is not willing to accept cryoscopy as a functional test *par excellence;* the latter may fail to disclose any abnormality in cases presenting cylinders and other pathological urinary elements. A marked lowering of the freezing-point of urine is known to occur in other conditions than disease of the kidneys; for example, in cyanosis, diabetes and acetonemia. Diabetes and acetonemia, however, can be excluded by chemical tests; and Korányi maintains that the freezing-point can be restored to normal in cyanosis by the use of oxygen.

Chronic Recurrent Fever.—In the year 1887 the cases which were at that time known under the general title of Hodgkin's disease were divided by Ebstein into two classes, namely, those accompanied by recurrent fever and those without it. The former set of cases, which Ebstein believed to constitute a diseases *sui generis*—"chronic recurrent fever"—has been made the subject of a special study by H. BATTY SHAW (Edinburgh Med. Jour., Dec., 1901). The disease is essentially identical in its symptoms with the regular type of Hodgkin's, and, indeed, ordinarily presents simply a later development of that condition. The characteristic point of difference is the occurrence of a periodical recurrent fever of a very special type. The febrile attack takes place about once in each month, the periods of pyrexia and of apyrexia lasting about two weeks each. These attacks are accompanied by certain general and local symptoms. There is almost always increase in size of the enlarged glands and of the spleen, which subsequently shrink, only to again increase with the next attack. In some cases the enlargement of the glands is associated with a marked intensification of the redness, pain, and heat of the overlying skin; in the same manner the enlargement of the spleen may find subjective expression in pain on the left side. In some of the cases, there is great constitutional disturbance with rise of temperature, rigors, vomiting, diarrhea, anorexia, and malaise, and in about 30 per cent. urobilinuria is a marked symptom. These very remarkable attacks begin to make their appearance on the average seven and a half months before the fatal outcome of the disease, although they may occur as much as fourteen months before death. What is the status of these cases with recurrent fever? Are they only peculiar forms of lymphadenoma, or are they to be classed entirely by themselves? The fact that so many cases of Hodgkin's run their course for months and years without showing a trace of recurrent fever, and, still more, the fact that cases with this fever are simply continuations of cases previously typical, would seem to argue for the superposition of some new factor upon those concerned in the production of a typical Hodgkin's. Ebstein referred the fever to infection by some unknown bacterial agent. This suggestion has found rich amplification in more recent bacteriological research, since in 1896 at least twenty-nine of such cases examined for micro-organisms had shown positive results. The findings have not, however, been uniform, inasmuch as bacilli, micrococci, streptococci, and typhoid-like forms have severally been identified, either in the blood or in the tissues of the various cases examined. Other etiological factors have been suggested as agents in the production of the fever, such, for example, as the periodical absorption of toxin or the successive formation of metastatic deposits, but they are all of an indefinite and unsatisfactory nature. Dr. Shaw concludes, therefore, that the periodic fever is due to a secondary and terminal infection of variable character, and that it represents nothing but an accidental variation of Hodgkin's disease. Chronic recurrent fever, as a disease, has no status. From the standpoint of diagnosis, the recognition of the condition is of some importance in connection with cases of typhoid fever with relapses, and with general miliary tuberculosis, the fever of which may in some cases mimic its type.

Thoracentesis.—Notwithstanding the voluminous literature upon the subject, the value of thoracentesis in cases of pleural effusion continues to be one of the moot questions of medicine. There is hardly a medical procedure of equal importance, upon which clinical experiences and clinical teachings are so much at variance. L. BARD (Revue Med. de la Suisse Romande, Nov. 20, 1901) has succeeded in throwing an

entirely new light upon the problem, both in its theoretical and in its purely practical aspects. He holds that thoracocentesis is *a priori* a logical procedure, inasmuch as it is essentially an artificial and a rapid path to the *restitutio ad integrum*. The very serious accidents and the not infrequent failures which have attended its use are faults not inherent in the method itself, but attributable entirely to the improper estimation of the amount of fluid to be withdrawn. If too much be taken there is danger of edema of the lung, displacement of the viscera, and even of a reinauguration of the effusion; if too little, the expected benefits do not accure to the patient. Yet the practitioner is at present without a guide in steering his course between these evils, unless, indeed, he is willing to put his trust in the "average figures" which have been suggested, or in the purely subjective sensations of his patient. Prof. Bard has devised a new instrument by means of which he proposes to determine physiologically the amount to be withdrawn in each case. The principle is that of the manometer, just as in Baginsky's instrument for evacuating the meningeal fluid by lumbar puncture. The original trocar and cannula of Potain is used, and to it a graduated glass tube, one meter long, is attached by means of a short piece of rubber-tubing. The instrument having been introduced and the trocar withdrawn, it is evident that the fluid will rise in the glass tube to a level which varies according to the degree of intrapleural pressure. In the average case the fluid fluctuates betwen +2 or +3 centimeters during inspiration to +8 or +10 in expiration; the lowest range of figures in Bard's series of cases was from —3 to +4 during the respiratory act, the maximal +10 to +17. It is an interesting observation that the level of the fluid as registered in the tubes is always considerably below that indicated by the physical examination. Bard found that he obtained the most favorable clinical results, including the progressive absorption of the fluid, by arresting the puncture when the oscillations just failed to reach the level of the puncture, that is, at a point corresponding to a level of —1 during inspiration, of —5 in expiration. These figures he considers to represent the true pressure values of the intrapleural space in health. If the claims made in this article are well-founded, the method represents a permanent and very important addition to medical practice. At all events, the simplicity and practicability of the procedure should win for it a widespread and thorough trial.

PATHOLOGY AND BACTERIOLOGY.

Etiology of Hay-Fever.—During the past few years the pollen-theory of hay-fever has attracted considerable attention and many adherents have been added thereto. In this connection the recent work of B. HEYMAN and T. MATZUSCHITA (Z'tschrift f. Hygiene u. Inf., Nov. 22, 1901) is of interest. They first inquired into the quantity of pollen particles in the air during the season of the year when hay-fever is prevalent. They found that only a very small number of such particles are present in the air: in the average 25 to each cubic meter. The bacteriological examination of these particles shows that they contain only a very small number of micro-organisms. Only from one to five organisms are present in the entire pollen from one blossom. They next examined the nasal and throat secretions of healthy persons, hay-fever patients, and individuals suffering from various other nasal affections. The hay-fever patients showed less pollen in such secretions than any of the other persons examined. With respect to the micro-organisms present, they found that staphylococci predominated in the nares of persons suffering from other nasal affections, while in hay-fever patients streptococci were most abundant. They conclude that the pollen-theory of hay-fever is untenable. They are undecided as to the bacterial excitement and the mode of its transmission.

Agglutination of Tubercle Bacilli.—The clinical value of the agglutinating property of the blood-serum of tuberculous patients in the early diagnosis of the disease has been much disputed. The fact that the bacilli grew in small clumps resembling an agglutination proved a great hindrance, and although a method had been devised which obviated this, it was so difficult in execution and uncertain in its results that it never came into general use. A simple procedure and the results from its employment have been contributed to the literature of the subject by ROBERT KOCH (Deut. med. Woch., Nov. 28, 1901). The method of securing the test-culture is briefly as follows: The pure culture of the B. tuberculosis is removed by filter from its fluid culture-medium. It is dried and a weighed quantity rubbed up in an agate mortar with weak 1 to 50 normal caustic soda solution in the proportion of 1 to 100. The liquid is then placed in a centrifuge and when separated from its sediment is further diluted with normal salt solution and a ½ per cent. carbolic solution, until the proportions of culture and diluent are about 1 to 3,000. A dried culture which can be more accurately weighed has also been used. The serum is secured from the blood of the patient by centrifugal action and is diluted nine times with a mixture containing a 5 per cent. carbolic solution and 20 per cent. glycerin only when it is desired to preserve the same for some days. For testing the agglutinating properties of any given serum, a definite quantity is diluted with the test-fluid in proportions varying from 1 to 10, to 1 to 100. These mixtures are placed in the incubator from fifteen to twenty hours, and the reaction as shown by the various degrees of cloudiness noted. In experiments on animals the agglutinating properties varied, being least marked in rabbits and goats, more so in horses. What value this may have in deciding the amount of resistance to tuberculous invasion in these species, has not as yet been determined. In observations made on immunized animals (injected with pure cultures of tubercle bacilli) it was found that goats were most responsive, the agglutinating power of the serum was quickly raised to 1 to 50 and in some cases to 1 to 1000. This property seemed to be most marked in seven to ten days after injection and then gradually declined. The author believes that there is a well-marked relation between the agglutinating power and the degree of immunization, and that the former can be taken as a gauge for the amount of the latter. In observations on the human subject, however, but little difference could be found in the serum of those free from or those afflicted with tuberculosis, so that the value of this phenomena as a diagnostic factor was abandoned. Nevertheless, as it appeared rather simple to increase the resisting powers of the animal with the greater value of the agglutinating property, the author believed that the procedure might prove an important factor in rendering a patient immune. He injected subcutaneously very weak dilutions of the pure culture in increasing doses every day or two, until a reaction, with rise of temperature of one and a half or two degrees, took place. The intervals were then lengthened to six or eight days and the agglutinating power observed. The injections are kept up and if possible given stronger and at greater intervals for as long as a year if possible. It was found that the early stages of phthisis were most fa-

vorably affected by the development of these antitoxins which seemed to correspond with the appearance of an increase in the agglutinating powers. Such patients showed a general improvement, appetite better, night-sweats disappeared, also the râles and the sputum diminished, and temperature gradually returned to normal. The presence of the bacilli in the sputum seemed a good guide in determining the length of the treatment. Koch believes that his method is of service in the diagnosis of tuberculosis, if supplemented by other methods or in cases where these have failed.

Ascaris Causing Puerperal Fever.—A case is reported by D. W. PRENTISS, JR. (Amer. Jour. of Obstetrics, Dec., 1901) in which the temperature rose to 102.4° F. on the second day, and continued irregularly and intermittently for nine days. There were tenderness and pains in the upper abdomen, but no chills, no leucocytosis, no malaria found in blood. The fever was uninfluenced by quinine in large doses. Cultures from the uterine cavity showed no pyogenic germs. On the ninth day of the fever a large worm, *Ascaris lumbricoids*, was passed by rectum, and the next day the fever, pain and tenderness disappeared and did not return.

Tuberculous Infection Through Milk.—The question of tuberculous infection by ingestion of milk is answered in the negative by N. ASPE (Rev. d. Med. y Cir. Prac., Nov. 21, 1901). If the tubercle bacillus reaches the cow's udder, it must necessarily be carried thither by the blood. The bacillus has yet to be found in the blood; but, supposing its presence there, we are taught to believe that every gland in the body, by its selective power, takes from the blood only those elements which are necessary to the elaboration of its peculiar products. This would seem to dispose of the possibility of infection of the milk before it leaves the cow's body, unless the elective faculty, attributed to other glands be denied to the mammary. Granting this possibility, if we recall that in the production of experimental infections by subcutaneous inoculation, the first organs to be affected are the lymphatics, it is natural to suppose that the first and invariable effect of the ingestion of tuberculous milk would be the development of tabes mesenterica, yet primary tabes is comparatively rare. The author of this paper further raises the question of identity between the human and bovine tubercle bacillus, and quotes experiments in inoculation of cows with cultures from human tuberculous products with negative results in the nineteen animals experimented upon, whereas, animals injected with the bovine form quickly succumbed, and autopsy showed tuberculous lesions.

Bacteriuria in Zymotic Disease.—The bacteriological analysis of the urine in disease is of great importance not only from a diagnostic, but also from a hygienic and therapeutic standpoint. C. J. LEWIS (Edinburgh Med. Jour., Dec., 1901) has written an article which challenges attention upon each one of these grounds. He studied the urine in cases of typhoid, scarlet fever, and diphtheria, examining the filtrate of a large number of specimens. In typhoid, he examined the urine of 45 cases, all of which had given a positive Widal, examining 158 specimens in all. The bacillus of Eberth was identified only once, but in a large number of cases the B. coli, or a coliform bacillus was found. The ratio of true typhoid bacilluria would thus be about 2 to 3 per cent. of the cases, which contrasts markedly with the ratio of 25 per cent. as determined by several other investigators. In view of the fact that the typhoid organism occurs in the blood itself of only about one-fourth of the cases, the latter figures would seem *a priori* to be exaggerated. A fruitful source of error is the confusion with other similar micro-organisms, notably the B. coli, and the forms described as B. typhosus simulans A., B., C., and D. Of the specimens examined, 33 per cent. revealed albumin. Of scarlet fever, 16 cases were studied, 51 specimens being examined. Two forms of streptococcus were obtained from the urine, neither form corresponded to the S. scarlatinæ of Klein. Of diphtheria, 17 cases were examined, in 14 of which the B. diphtheriæ was present in the throat. In none of the 43 specimens studied was the specific organism to be found. Albuminuria was present in five cases. The author believes that the healthy kidney is not capable of eliminating living bacteria, although it is able to remove the toxins resulting from their activity. Bacteriuria is only possible when there is a disturbance of the integrity of the renal epithelium, and is therefore, as a rule, associated with albuminuria, pyuria, or hemoglobinuria. The latter conditions should furnish a valuable indication regarding the possible admixture of the bacteria. All wines containing bacteria should, he believes, be disinfected by means of carbolic, formalin, or sublimate.

Pathogenesis of Cephalhematoma.—Among the endocranial affections of infants may be mentioned the rare condition of bony cyst due to extravasation of blood between the cranial bones and the periosteum, says G. PACINOTTI (Gaz. d. Osped. e. d. Clin., Nov. 24, 1901). In the majority of cases such an extravasation, if moderate in amount, is quickly absorbed; but where traumatic injury to the cranial parietes causes a sudden and violent exudation of blood between parts which neither yield to pressure nor admit of infiltration, the blood may remain *in situ*, causing irritation of the tissues with production of an encapsulating connective-tissue membrane and surrounding bony ring. This latter is a reactive production of abnormal ossification, from which may eventually arise a capsule of bone, the hematoma thus being converted into a true bony cyst. Instead of organizing, as might be expected, the blood-clot undergoes fatty and granular degeneration, so that in place of the coagulum a cavity arises, filled with a serous fluid and surrounded by a lamella of connective tissue rich in blood-vessels and pigmented by detritus of the blood. Study of the case of an infant at whose birth a tumor was noticed and supposed to be an ordinary scalp tumor, but which developed into a bony cyst, causing the child's death in convulsions at the age of two months, leads Pacinotti to question the possibility of such a cyst being formed from a cephalhematoma arising at birth. The anatomical changes which a cephalhematoma must undergo in its development to a bony cyst with serous contents hardly seem possible of accomplishment in the short period of sixty days; therefore it seems probable that some injury to the mother's abdomen or possibly circulatory lesions in the fetus due to changes in the position of the head *in utero* to extravasation of blood between the osseous trabeculæ of the parietal bone in the formative period some time prior to birth. The conclusions of the author are that cephalhematoma in the new-born is not always due to conditions of parturition, but may be caused by some injury to the bony trabeculæ of the parieties in its period of ossification in intra-uterine life, leading to extravasation of blood. To this form he would apply the term trabecular cephalhematoma.

Etiology of Typhoid Fever.—It is well known that milk and water are the most frequent channels through which typhoid infection is transmitted. From time to time cases of this disease have been observed

which have apparently owed their existence to other sources. SCHÜDER (Z'tschrift f. Hygiene u. Inf., Nov. 22, 1901) has studied the literature of 650 cases of typhoid fever from the standpoint of the source of infection. These cases were distributed throughout various countries and occurred at all seasons of the year. He finds that 20 per cent. owe their origin to an infected water supply. In 17 per cent. the milk supply was the source of infection. Various other varieties of food were the carriers of the bacilli in 3.5 per cent. of the cases. In the vast majority of instances water becomes contaminated by the feces and urine of typhoid patients. The control of the spread of the disease, therefore, largely resolves itself to the problem of the prompt and thorough disinfection of these excretions. The absence of an early diagnosis is one of the most potent factors in the spread of typhoid fever. In a fair proportion of cases the diagnosis is not made and means of disinfection instituted until valuable time has been lost, so far as the prevention of other cases is concerned.

THERAPEUTIC HINTS.

Acute Bronchitis.—A diaphoretic, diuretic and relaxant for use at the outset is:

℞ Potassi citrat..... 24.0 (℥vi)
Liq. ammon. acet.....150.0 (℥v)
Spt. ætheris nitrosi..... 30.0 (℥i)
Vini ipecac ..... 8.0 (℥ij)
Syr. pruni virg. q.s. ad.....240.0(℥viij)

M. Sig: Fifteen c.c. (℥ss.) in water every two hours until the secretions are loosened. When this is not productive of free secretion, and troublesome cough continues, use:

℞ Ammon. muriat..... 20.0 (℥v)
Codeinæ .....2.5-3.5 (gr. iv-vi)
Spt. junip. comp..... 15.0 (℥ss.)
Mist. glycyrrhiz. comp.... 75.0 (℥iiss.)
Syr. pruni virg. ad..... 120.0 (℥iv.)

M. Sig: Four c.c. (℥i) every two hours.—J. M. ANDERS.

Tuberculosis.—For the cough, night-sweats, etc., R. COUETOUX (Bull. général de therapeutique, Nov. 15, 1901) vaporizes a tablespoonful of the following in the bedroom every night:

℞ Creosote ..... 20.0 (℥v)
Eucalyptol ..... 4.0 (℥)
Alcohol .....150.0 (℥v)

When this has become unpleasant to the patient, or if the cough is dry and expectoration difficult, he uses two or three tablespoonfuls of

℞ Acidi lactici..... 20.0 (℥v)
Acidi acetici ..... 20.0 (℥ijss)
Acidi benzoici..... 10.0(℥iiss)
Alcohol .....150.0 (℥v)

By alternation this fumigation may be continued indefinitely.

Care during Pregnancy.—The clothing must be loose, corsets, circular garters and belts omitted, and the weight of the skirts borne by the shoulders. The underwear should be of wool. Fresh red meat is to be taken only once daily. Avoid veal, pork, hashes, stews, rich gravies and fancy dishes. Live on plain, digestible food, with some fruit. Milk, coffee, tea, light wines and beer may be consumed, according to previous habit. The teeth need special care. It is well to avoid extraction of a tooth if possible, and only temporary fillings should be employed, as decay is more likely to occur in pregnancy. Warm baths are beneficial, best just before retiring. Vaginal douches to be used only when ordered. Russian, Turkish or surf-bathing to be avoided. Exercise in the open air to the point of slight fatigue is good, but sewing-machine, dancing, and active exercise must not be attempted. Railroad travel in comfortable cars can ordinarily be permitted from the third to the eighth month, but it is best not to travel during the few days corresponding to a menstrual period. Owing to the increased demand on her oxygen supply, the pregnant woman should avoid close or crowded halls, churches, etc. There should be a regular hour for retiring, not later than ten o'clock, and the evenings should be spent quietly to promote restful nights. The patient should remain in bed for an hour after breakfast till the tendency to nausea disappears. After the noon meal, an hour should be spent lying down. The breasts should be warmly covered and free from compression; the nipples washed daily and for the last two months bathed with Cologne water and rubbed with cocoa butter. Constipation must be avoided if possible.—W. S. BOWEN in American Journal of Obstetrics, Dec., 1901.

Suprarenal Extract in Cardiac Cases.—The active principle of this gland is neither proteid, carbohydrate, nor fat. It is soluble in water, dilute alcohol and acids, but insoluble in pure alcohol, ether or chloroform. Removal of both glands is followed by extreme muscular weakness, loss of vascular tone, loss of appetite, general prostration, and death in from twelve to seventy-two hours. Intravenous injection of the watery extract is a powerful tonic. W. E. DEEKS records a case of mitral insufficiency, myocarditis and arteriosclerosis, and a case of probably malignant endocarditis, in which all other heart tonics had failed, and in which prompt relief from the failure of compensation followed three-grain doses of suprarenal extract three times a day. He used it also with good effect in two cases of Graves' disease. There was no gastric disturbance even when the stomach was hypersensitive.

Gastric Stasis with Hypersecretion.—The syndrome of Reichmann is often met with in gastric pathology. The patients have a good appetite, sometimes even being tormented by hunger; but they often dare not eat for fear of intense pain which comes on toward the end of stomach digestion. The pains are relieved temporarily by food, drink or alkalies. Stomach peristalsis may be visible. The victims become thin, weak, nervous and irritable. A test-meal shows a large amount of fluid of excessive acidity, with much free hydrochloric acid. The treatment for this condition which has been most successful in the hands of A. MATHIEU and A. LABOULAIS (Bull. général de therapeutique, Nov. 8, 1901) is evacuation of the stomach-contents, without lavage, followed by the injection, through the tube, of powdered meat. The stomach is emptied as much as possible, preferably before a meal, a little water being used if the mucus is very thick. Then, by gavage, 60 grains (℥ij) of powdered meat are administered, mixed with 300 c.c. (℥x) of milk. This amount is increased slowly till 100 grams (℥iijss) of meat and 400 c.c. (℥xiij) of milk are given daily. The rest of the diet must be arranged according to the symptoms. Intense pains with considerable stasis require milk diet; when pain is less marked, eggs may be given, and soft foods such as gruel. Severe cases may require lavage about twice a week. Temporary relief must be obtained from sodium bicarbonate or magnesia in large doses when the pain begins. The almost immediate cessation of the pains, the diminution in the quantity of the liquid of stagnation, and the improvement in the patient's condition are remarkable. The meat powder acts by taking up the excess of hydrochloric acid, and by its nourishing powers and completely dissolves so as to leave nothing solid to cause pyloric spasm.

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A PROPER HONORARIUM.

IN considering an appropriate reward for the medical attendants upon the late President McKinley, an occasion has arisen for the Government of the United States to openly confer upon the profession of this country a sign of appreciation. Other governments have their academies, where honors are bestowed upon the great, or their monarchs who courteously acknowledge by medals, titles and appointments their indebtedness to men of science. But the United States has no formal means of expressing to the practitioner of medicine the Nation's appreciation of signal service, apart from those in the army or navy corps.

The medical profession of other nations, as well as that of our own country, is waiting with interest to see if Congress will do the graceful and proper thing by the physicians who attended the late President McKinley. Their services were rendered not to a private individual, but to the head of the nation, and represent the earnest and conscientious effort of science to save to the people the man who had received the assassin's blow because he was the Nation's chief.

A suitable pecuniary award by Congress would not be the mere discharge of an official duty, but would be an opportunity for the people of this country to express through their representatives their indebtedness to the science of medicine and to its practitioners.

Such an expression, we believe, has never been made in the form of a public gift to physicians. Generous men have founded hospitals and endowed medical colleges; scientists have bequeathed medical libraries, but these are as means of relief to the sick. No adequate expression has ever been made to the men themselves, who gratuitously give their services in the hospitals and whose brains work out for their patients the requisite knowledge in the libraries; and yet there are few citizens of the Republic who do not feel that they owe more to some physician than they can ever pay. What shall a man give in exchange for his life? Surely he will add a little gratitude to the few dollars that represent the doctor's value of his care.

As a nation the people of the United States now have an opportunity to acknowledge their indebtedness to the medical profession by conferring a munificent honorarium upon those who were in attendance at Buffalo. The cordiality with which Congress pays this tribute to the late President's physicians will mark in history the value which the people of the United States set upon the medical skill of their land at the beginning of the twentieth century.

GERMAN MEDICAL HUMOR.

HUMOR confined to certain lines is apt to degenerate after a time. Perhaps this is true even of so good a thing as the annual joke number of the *Münchener medicinische Wochenschrift,* which has just come to hand. It may only be, however, that previous excellent issues of the "Scherznummer," which, according to the announcement on its title-page, is gotten out without any assistance on the part of its distinguished staff of collaborators, have led us to expect too much from our German medical humorist colleagues. The present number certainly contains an amount of very amusing material that will serve, as far as anything ever can in this benighted world, to enable us to see ourselves as others see us. Some of the articles deserve extended quotation. We can cite only some of the very best things.

The article by Professor Dr. Quaatsch on "The Descent of Man" is a good take-off on the usual style of anthropological paper read at medical congresses. The author considers that Darwin has outlived himself, especially since his death!

The Darwinian theory of man's descent must be fundamentally reformed. The hypothesis that all men belong in the category of the vertebrate animals is completely without foundation, since it is a notorious fact that most men have no backbone at all. Many of them belong to families of the mollusks—they are lobsters or clams. A large number of them (much more than is usually thought) belong to the class of insects. Besides, the difference in the character of the backbone of various individuals makes it incredible that all should be classed among the same kind of vertebrates. In some the backbone has never become quite ossified.

One of the best things in the number is the article on "Human Life as a Circular Insanity." It begins with a sly hit at Kraepelin's recent declaration that practically all of the mental disturbances are sure to recur. Some of the reasons why human life must be considered as a typical example of circular insanity are worth quoting. For instance, there can be no doubt that human existence begins with congenital imbecility, the first symptom of which is a decided tendency to echolalia. Pa-pa, ma-ma, ta-ta constitute the entire speech faculty, and these syllables are heard only after they have been repeated by some one else. The next prominent symptom is a decided tendency to coprolalia, which finds its outlet in such characteristic expressions as pe-pe, ah-h, h, h. About the age of six the period of "that tired feeling" begins. This symptom is entirely subjective and, since the promulgation of the latest hygienic school regulations in Germany forbidding school-hours for children in the afternoon, it is felt only in the morning and is never noticed on Sundays. In a word, there is a psychopathic periodicity about this affection which is noticeable even at a very early time of life.

Certain stuporous symptoms are apt to be distinctly prominent a little later in life, especially about the time of examinations. Difficulties in reckoning, especially about the time that reckonings have to be paid, are not seldom in this, the adolescent period of life. At times there are distinct lacunæ in the memory as regards certain hours, especially of the night. In the course of certain lucid intervals, or remissions of the usual circulatory insanity, a man may come to amount to something. Inevitably after this, however, there sets in a condition of euphoria, *i. e.*, of internal self-content, which can not but be considered as a psychopathic symptom of the beginning of degeneration.

There is a good take-off on the gynecologists, their detailed interest in the slightest changes in the position of uterus and adnexa, and their invention of multiform and multiplex instruments for the correction of presumed deformities, in an article on the position of the testicles. This is written by Dr. Fritz, a specialist for andrology, as he calls himself, who has invented a number of instruments with the aid of which operations can be performed that will secure the fixation of both testicles exactly in the same plane, horizontal and vertical, and set them, besides, exactly in the same angular position.

The Germans are apt to be freer than American and English medical men with regard to sexual hints in their jokes. The present "Scherznummer" has perhaps a little bit more of this fault than preceding copies of the Muenchener "Joker." The poetic description of a corneal corpuscle as the servant-maid of the eye, with two yielding anterior processes and a large staphyloma posticum, is a quaint bit of humor that scarcely crosses the line in this latter regard. Other things are not so quotable. As usual, even the advertisements are jokes. The firm of Salber & Quack announce a number of opo-preparations. One of the testimonials runs as follows: "Since early youth I have been childless and unmarried. Now, thanks to the use of your opo-preparations, I have become in a very short time several times a papa, for which receive my thanks."

A TALE OF CANCER AND CORKS.

THE study of the etiology of cancer has occupied pathologists ever since the dawn of scientific medicine, but never was there a time when the search for the true cause of malignant growths was more eagerly pursued than during the past few years. It is not astonishing, therefore, that every announcement of a new discovery, purporting to be the solution of the problem of the cause of cancer—and there have been many such discoveries of late—is greeted with acclamation by the readers of the yellow and yellowish journals, both here and abroad, in which such news usually appears with flaming headlines and exaggerated or misstated facts.

None of these "discoveries" has been hailed more enthusiastically by the lay public and probably none received with more mental reservation by the initiated than that of Professor Max Schüller of the University of Berlin, who recently gave to the world the results of his researches in this field in a monograph entitled

"Die Parasiten im Krebs und Sarcom des Menschen." In this work he says that when cancerous tissue was excised aseptically and placed in tubes which were sealed and kept at body temperature for a few days, the contents of the tube became semiliquid, and near the edge of the liquid there appeared a number of small, grayish-white points which proved to be colonies of the new parasite. He knew that these parasites were the specific germs of cancer because when the cultures were injected into rabbits, they produced tumors which he recognized as cancerous growths.

Hauser, of Erlangen, recently had the courage to examine most minutely the work of the author of "Die Parasiten im Krebs und Sarcom des Menschen," and to go so far as to examine the very specimens which Schüller used as a basis for his claims. To his astonishment he found that the parasite described by Schüller bore so close a resemblance to the ordinary "stone cells" of cork that he was led to say: 'Any one can scrape all the parasites of cancer he desires from any ordinary cork." Moreover, Hauser found that in most cases the "parasites" were not embedded in the tissues in the sections examined, but were simply strewn or sprinkled thereon. Finally, he found that the alleged cancerous tumors produced in rabbits by inoculation of Schüller cultures were not cancerous at all, but simply masses of granulation tissue. Further comment is needless to show that there are students of pseudoscience in other lands than this.

ECHOES AND NEWS.

NEW YORK.

Lying-In Hospital Work.—There were 50,228 births in the borough of Manhattan during the year ending September 30, 1901, and more than 5 per cent. of these were under the care of the Society of the Lying-In Hospital, at Seventeenth Street and Second Avenue, as is shown in an annual report just issued. This is an increase of one per cent. over the service of last year, and the report further states that the new hospital, the gift of J. P. Morgan, which is now but partly finished, will be wholly ready for occupancy within a few months. The report says that there has been no increase in the accommodation provided by the Department of Charities: 60 beds for waiting women and 56 beds for women in childbirth, 50 beds being located on Blackwell's Island in the Metropolitan and City Hospitals, and 6 beds in the Emergency Hospital in Twenty-sixth Street. The number of applicants cared for by the society has been 3,757, an increase of 739. Of these the society visited and relieved 2,723 (561 more than the total of the corresponding period a year ago). Out of this total there were only ten deaths. Of those treated, 263 were natives of this country and 2,444 foreign born. One thousand six hundred and thirteen of this number emigrated from Russia, 444 from Austria, 99 from Roumania, and the balance from other countries. Out of 3,309 applicants, 2,854 lived in front rooms and the remainder in rear tnements. Of 2,910 cases the husbands were without employment in 1,006 instances. In 2,268 cases the number of living children was 5,738. Of the 50,228 births in Manhattan, 24,917 were reported by physicians and 25,311 by midwives. Last year the service of physicians and midwives was about equally divided. The report says that some attempt has been made to regulate the practice of midwives by requiring them to pass an examination as to their ability; but a bill to that effect introduced in the Legislature failed to become a law, and at present a license can be obtained by any woman merely by presenting a certificate of competency, signed by two medical men. The report calls attention to the fact that the signs "midwife" in French and German, so common on the East Side, in most instances are exhibited by women whose only experience has been gained either by having borne a child themselves, or by having acted as nurse for neighbors and friends. If they are ignorant, they may carry infection from one house to another, and even in the simplest cases bring fever and death to their patients. When it is considered, says the report, that more than 25,000 women in this borough in the past year received obstetrical treatment from midwives, the necessity of solving this important question becomes urgent to those who are endeavoring to improve the condition of neglected mothers.

Metropolitan Medical Society.—At the last meeting of the Metropolitan Medical Society the following officers were elected for the ensuing year: President, Dr. W. M. Leszynsky; Vice-President, Dr. F. L. Wachenheim; Recording Secretary, Dr. W. M. Brickner; Corresponding Secretary, Dr. S. Yankauer; Treasurer, Dr. I. Pierce Oberndorfer.

Portrait of Rudolph Virchow.—Through the courtesy of Messrs. Schering and Glatz the profession of this city are in receipt of a very excellent portrait of Dr. Virchow.

Department of Charities Appointments.—Commissioner Keller of the Department of Public Charities published last week a list of appointments of hospital attendants, pupil nurses, etc., and an equally long list of dismissals, resignations, and "dropped-from-rolls" of the same class of help. The changes net the Commissioner about $1,500 saved.

Vaccination of Buffalo University Students.—Students of the University of Buffalo were duped December 20th, and later every one has a sore arm as a result of being vaccinated. The various classes were directed to meet Dr. Charles G. Stockton, a member of the faculty, at a stated hour. It was rumored that Dr. William Osler, of Johns Hopkins University would deliver an address, and all the students assembled to hear it. When all were together the doors were closed and the students were told to bare their arms for vaccination. Every student in the university was vaccinated.

A Reform in the New York Prisons.—The doing away with the cutting of the hair of convicts is a gratifying proof, says the Evening Post, that those in charge of this State's prisons are open to the arguments of progressive penologists. To the average citizen such a change may seem of the slightest significance, or, if anything, only the disuse of a time-honored measure of discipline. It is, however, as striking an action as the abolition of the lock-step last spring, and both arise from the desire to make each prison a reformatory, and not an institution for branding men who have made missteps. The hair-cutting process was a relic of sev-

enteenth or eighteenth century prison methods, when actual branding of prisoners was also the vogue. Its abolition will make it easier for convicts to obtain employment on discharge, as well as help them to retain their self-respect during their confinement. The aim of the modern prison is to correct by discipline, to strengthen physically, to train intellectually, and to awaken morally. Hair-cutting, the lock-step, and striped suits are all hindrances, and not helps, in this undertaking.

Stony Wolde Sanatorium.—Lots Nos. 265, 295, 296, 307 and 308 of Township Ten, of the old military tract in Franklin County, have been purchased by the Stony Wolde Sanatorium as a site for its institution. The project for the establishment of this sanatorium is one in which many well known society people in New York are interested, and has for its object the furnishing of a temporary home for dependent young women who are threatened with pulmonary diseases.

Study of Morphine.—Dr. J. B. Mattison, Medical Director, Brooklyn Home for Narcotic Inebriates, offers a prize of $400 for the best paper on the subject: Does the Habitual Subdermic Use of Morphine Cause Organic Disease? If so, what? Contest to be open two years from December 1, 1901, to any physician, in any language. Award to be determined by a Committee: Dr. T. D. Crothers, Hartford, Conn., editor Journal of Inebriety, Chairman; Dr. J. M. Van Cott, Professor of Pathology, Long Island College Hospital, Brooklyn, and Dr. Wharton Sinkler, Neurologist to the State Asylum for the Chronic Insane, Philadelphia. All papers to be in the hands of the Chairman, by or before December 1, 1903: to become the property of the American Association for the Study and Cure of Inebriety, and to be published in such journals as the Committee may select.

Medico-Legal Society.—The annual meeting of the Psychological Section was held in joint session with the annual meeting of the Medico-Legal Society on December 18, 1901.

Medical Reconciliation in New York.—The suggestion of Dr. Frank Van Fleet, President of the Medical Society of the County of New York, that committees from the two county medical organizations meet and confer with reference to a union of the two organizations, was very cordially received by the New York County Medical Association, and in response thereto the following preamble and resolutions were unanimously adopted at the stated meeting of the Association on December 16th:

"*Whereas* the following resolution has been received from the Medical Society of the County of New York,

"*Resolved*, That the President of the Medical Society of the County of New York appoint a committtee of five, of which he shall be chairman, provided a similar committee be named by the New York County Medical Association, to confer with that body wth reference to a union of the two organizations; and that this committee be requested to report to the Society at the stated meeting in January, 1902, or sooner, in order that this society may, if desirable, make a recommendation to the Medical Society of the State of New York at its next annual meeting; and

"*Whereas* the subject of union of the medical profession in this State, as expressed in the foregoing resolution as presented by the Medical Society of the County of New York, is wholly a State question; and

"*Whereas* the published charter and by-laws of the New York State Medical Association do not allow its county associations to act independently on State questions:

"*Be it Resolved*, That we heartily favor a union of the profession in one State medical body, and respectfully suggest that the Medical Society of the County of New York request the Medical Society of the State of New York to appoint a committee to consider this question; and

"*Be it further Resolved*, That the New York County Medical Association request the New York State Medical Association to appoint a committee of conference in case the Medical Society of the State of New York shall appoint a similar committee."

PHILADELPHIA.

Dr. Coley Addresses Medical Students.—Dr. William B. Coley of New York visited this city December 17th as the guest of Dr. Hobart A. Hare and the H. A. Hare Medical Society of Jefferson College at their annual banquet. Preceding the banquet Dr. Coley addressed the students of Jefferson in the college amphitheater, speaking of various medical and surgical topics. He stated that the proper relation between medicine and surgery had not yet been reached, many operations that are not needed being performed. Surgery, both general and special, is open to the accusation of overstepping its bounds. An accurate knowledge of the after-history of patients is of very great importance as a guide in future cases. Other topics discussed were medical etiquette, immunity and serumtherapy, and the origin of cancer.

Care of the City's Poor Consumptives.—Dr. John V. Shoemaker has outlined the plans for the extensive sanitarium which is to be erected on the Philadelphia Hospital grounds for the care of the 500 consumptives in the almshouse. Eight pavilions are to be constructed, the frames to be of steel and the roofs and sides of glass. Ample facilities for ventilation will be afforded and in each pavilion will be placed electrical appliances furnishing static electricity for the generation of ozone. By this means it is believed that the air of higher altitudes may be sucessfully simulated. The patients will be classified and assigned to the pavilions according to their condition. By the means just mentioned isolation can be practically secured.

Initial Symptoms of Smallpox.—In a paper read at the recent meeting of the North Branch of the County Medical Society Dr. Jay F. Schamberg gave the results of a study of 100 cases of smallpox recently admitted to the Municipal Hospital. The cases included confluent, profuse rashes, moderate eruptions, and mild varioloid. The most common symptoms of the disease were present in the following proportions: Headache, 86 per cent.; chills, 78 per cent.; backache, 70 per cent.; vertigo, 57 per cent.; vomiting, 55 per cent.; nausea without vomiting in 10 per cent. In only 2 cases was there complete absence of initial illness. Attention was called to the fact that in a large percentage of the cases admitted to the hospital during the past year the family physicians had interpreted the initial symptoms as the early manifestations of typhoid fever. Dr. William M. Welch stated that of the 800 patients admitted to the hospital during the present outbreak of the disease not one had been recently vaccinated.

Magnitude of the New Water System.—The new filtered water system which Philadelphia is installing at a cost of $15,000,000 has been declared by Consulting Engineer Hill to be "the greatest municipal improvement in the history of the world, and to which is comparable only, though lesser in magnitude, the renovation of the entire sewerage system of London thirty years ago." The principal feature, in addition to the large number of filter beds previously mentioned, is the conduit which is to convey the water

from the filter beds at Towesdale to Lardner's Point Pumping Stations where it will be forced into the distributing reservoir. The conduit will be 14,000 feet in length and will be cut out of sold rock, this making it necessary to place the conduit 100 feet below the surface of the earth. When finished it will have an inside diameter of 10½ feet and a carrying capacity of 360,000,000 gallons per day.

Smallpox Decreases Despite Cold Weather.—The health report for the week ending Decembr 21st shows 76 new cases of smallpox and 10 deaths, compared with 125 cases the preceding week.

Street Cars Still Unheated.—The campaign for heated street cars has again opened and the prospects for success are about as bright as usual. Suburbanites are especially bitter in their complaints, the cars being in the majority of instances without the semblance of heat. A party of Germantown people recently made a round trip in one of the cars sitting around an oil stove which they placed in the aisle as an object lesson to the company. The only result was the suspension for two days of the conductor who allowed the stove to remain in the car.

An Amusing Tirade Against Vaccination.—An article in a local paper by Julian Hawthorne would excite only amusement were it not that the prominence of the writer is apt to work havoc with the credulity of certain people. A few of his sentences are quoted: "I hold, with an odious and incorrigible minority, that the present fad of vaccination for smallpox is not only disgusting but vain. The fact is, as everyone who knows anything at all about the matter knows, that no doctor knows except empirically (which is not knowledge) why or how or even if vaccine injections perform the function that is claimed for them. We are fighting the disease-devil, not with the angel of health, but with a disease-devil of the same family only smaller. Let us not forget that smallpox itself is now seldom fatal; with anything like a fair chance, any doctor who deserves his diploma can cure it." The medical fallacies of the article are equaled only by the English employed.

CHICAGO.

Dunning Plans Changed.—Plans for using the consumptive hospital at Dunning for insane patients have been abandoned. Instead, all patients at the Dunning institutions in the first stages of consumption will be removed to the hospital, which will fill it, it is believed. The amusement building will be converted into a ward for insane women, and the patients who have been required to sleep on the floor will be accommodated there. A storage-room in the poorhouse will be fitted for the use of insane men. At a recent meeting of the County Board Advisory Committee, a committee consisting of Dr. Frank Billings, Dr. Hugh T. Patrick, and President Hanberg, was appointed to devise means for a permanent reorganization of the administration, medical and nursing departments.

Hospital Sued.—William P. Shephard has brought suit in the Superior Court for $50,000 damages against the Chicago Hospital. It is claimed that Mrs. Shephard was severely burned by the explosion of a gasoline stove early in October. She was taken to the Chicago Hospital, where she lingered nearly a month and died. It is said by the physicians of the Hospital that no treatment could have saved the woman's life.

The Smoke Nuisance.—In the ordinance prepared by Health-Commissioner Reynolds and introduced into the City Council recently, the public at last has something like a rational and practicable plan for suppressing the smoke nuisance. The ordinance proposes to abate the evil by attacking its cause. Instead of trying to check the nuisance at the top of the chimney, it proposes to stop it where it originates—in faultily constructed furnaces. Under this plan the smoke inspector and the boiler inspector will work in combination, and their joint efforts will be directed toward compelling property owners to construct their furnace rooms and boiler plants on proper models. Where a defective plant is already in operation, the bureau thus created will be empowered to take steps to compel the necessary changes. With furnaces and boilers of the right design and use, the responsibility for a smoky chimney will be plainly chargeable to sloth, neglect or incompetency. There will be no longer an opportunity for violators of the smoke ordinance to claim that they are trying to obey the law, but find it impossible to do so. A proper enforcement of such an ordinance as is now proposed promises better results than any other plan which thus far has been presented.

Indications and Limitations of Massage of the Prostate Gland.—Dr. Louis E. Schmidt read a paper on this subject before the Chicago Medical Society, in which he said it was necessary to understand what was meant by massage of the prostate. It could best be shown when the kind of cases were considered where it was adaptable. First, there were cases in which the physician intended to treat inflammatory infarctions or congestions. Massage was applied in order to hasten their absorption by stimulating the circulation. Second, there were cases in which the physician wanted to express the fluid contents, especially out of pathological cavities. Third, cases in which it was necessary to produce normal development of the undeveloped prostatic sphincter muscle. Fourth, cases of impotence, which were due to loss of the prostatic function, in patients in whom infection had not taken place, but in whom exhaustion had set in following excesses. Massage was indicated in all those inflammatory diseases of the prostate gland in which the enhancing of the absorption was at issue, or in cases in which the prompt and regular removal of accumulated secretion was desirable. Furthermore, it was indicated in cases of insufficient development of the prostate and prostatic sphincter in youthful individuals, and also in certain cases of sexual exhaustion.

Diagnosis of Latent Frontal Sinusitis.—Dr. George E. Shambaugh read a paper with this title, in which he said that inflammatory tissue of the frontal sinus might be either manifest or latent. The manifest inflammations were not common and were readily recognized by the physician. Latent inflammation was much more common, but often very difficult to diagnose. Latent frontal sinusitis often lasted many years, with scarcely a single symptom which would lead one to suspect its presence, except at times when an acute exacerbation lighted up the process and caused symptoms which were temporarily more or less marked. Such symptoms were frontal headache and tenderness on percussion or pressure over the sinus. These symptoms were often absent in frontal sinusitis, and when present might be due to causes outside of the sinus. Transillumination was not so reliable as with the maxillary antrum. In cases of long standing, secondary degenerative changes were often found in the mucous membrane about the middle meatus, such as mucous polyps, polypoid degeneration of the anterior end of the middle turbinated body, and degeneration of the tuberculum septi and the unciform process. These changes might be caused by suppuration of the antrum or of the anterior ethmoid cells. A continuous discharge of pus into the middle meatus was often given as characteristic of frontal sinusitis, but this symptom might be caused by suppuration of the anterior eth-

moid cells, and frontal, or infundibular cells drained directly into the infundibulum. Discharge from the frontal sinus was often intermittent when the naso-frontal duct was partially closed or when the discharge was slight. By the presence or absence of part or all of the above symptoms, we could neither diagnose nor exclude frontal sinus disease. The diagnosis must be made by the actual demonstration of pus in the frontal sinus. The typical outlet for the frontal sinus was through the naso-frontal duct into the anterior end of the infundibulum, then through the hiatus semilunaris into the middle meatus. The atypical passage was direct from the sinus into the middle meatus, in front and to the median side of the hiatus semilunaris. In cases where the middle meatus was obstructed by polyps or by the middle turbinated body, the first step was to open the meatus freely by removing the polyps, and the anterior end of the turbinated body. With this accomplished, there were three methods of diagnosing pus in the frontal sinus. First, the introduction of a catheter and irrigation of the sinus; second, diagnosis by exclusion; third, making an exploratory opening into the sinus. To catheterize the sinus, a soft silver catheter was bent about one inch from the tip at a right angle upward. One should try to pass it through the typical passage. If this failed he should try through the atypical passage. Obstructions met with were deviations of the septum, mucous polyps, the middle turbinated body, a narrow infundibulum and frontal cells which opened into the infundibulum. To determine whether the catheter had entered the frontal sinus, or whether it had lodged in the infundibulum or an ethmoid cell, the X-ray gave the most satisfactory results. In cases where the catheter could not be introduced, the diagnosis by exclusion might be tried. First, the maxillary antrum should be eliminated by washing out this sinus. Then one should note whether pus reappeared in the middle meatus, and whether it came from the opening to the anterior ethmoid cells or from the ostium frontalis. When this method failed, as a last resort, an exploratory opening should be made into the sinus. This could best be done from without at a point just under the inner end of the eyebrow, where the slight scar would not be seen.

GENERAL.

Study of Foods.—Many people eat much more than is necessary. Professor Atwater of Wesleyan University told a recent gathering of physicians in Hartford, according to the Post. Especially do we use an excess of sugar, starch, and fat in our foods. The opinion of many physicians that, taking the country at large, the injury that comes from wrong dietary habits is, on the whole, greater than that from the excessive use of alcohol, finds a good deal of support, Professor Atwater said, in the dietary inquiries being made under the direction of the United States Department of Agriculture. They emphasize, also, the need of more skilful cooking, and the Professor regards the movement toward the teaching of such subjects in our public schools as one of the hopeful signs of the times. Another general fact illustrated by the inquiries is that people understand very little about the relation between the nutritive value of food and its cost, and that the poor are especially apt to be extravagant in their purchase and use of food.

To Study Leprosy.—It is reported that Jonathan Hutchinson is to go to South Africa to study leprosy. He is to go to Robben Island and thence to Natal and Basutoland.

Havana's Sanitary Condition.—The report of Major W. C. Gorgas, Chief Sanitary Officer at Havana, to Governor-General Wood for the month of November, says that the sanitary condition of Havana continues excellent. The death-rate was 19.58 per thousand. This compares favorably with cities of the same size in the leading civilized countries of the world. The report adds: "During the month we have had no cases and no deaths from yellow fever. This can be said of no preceding November since 1762. Taking this month for the last eleven years, the maximum number of deaths from this disease occurred in 1896, when we had 244; the minimum in 1898, when we had 13; average, 48. Last year, 1900, we had, during this month, 213 cases and 54 deaths. This year the last case of yellow fever occurred on September 28; that is, we have gone over two months without a single case or death belonging to Havana. I consider this a demonstration that Havana has at last been freed from the infection of yellow fever. It must be remembered that October and November are the months when yellow fever is rife in Havana, and that, for the past century, there has never been a day during these two months when there were not many cases of yellow fever in the city; and very few years can be picked out, in all this time, in which the record for each day during these months does not show several deaths. This result I consider due to the system, introduced last February, of killing infected mosquitoes in the neighborhood of each point of infection as it developed."

Study of Cancer in Germany.—Dr. Wutzdorff of the Geman Imperial Health Department has lately made extensive researches which show that there has been a decided increase in recent years in Germany, as in other European countries, in the prevalence of cancer.

Experiments in Tuberculosis.—The Royal Commission on Tuberculosis has accepted two farms in Essex offered by Sir James Blyth for experimental purposes. Experiments that will last two or three years will be made in bovine and other kinds of tuberculosis.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, December 14, 1901.

ELECTION OF DIRECT REPRESENTATIVES TO THE GENERAL MEDICAL COUNCIL—EXCESS OF OPERATIVE ZEAL IN DISEASES OF THE UPPER AIR-PASSAGES—THE NOSE AS THE CENTER OF THE PATHOLOGICAL AXIS OF THE HUMAN MICROCOSM—BREATHING EXERCISES AS A CURE FOR ADENOID VEGETATIONS IN THE PHARYNX—A NEW SPECIALTY—A NEW JOURNAL—THE TWO PARTIES IN BRITISH GYNECOLOGY.

THE election of direct representatives of the profession in England and Wales to the General Medical Council ended this week in the return of two men so utterly unknown to fame that it is useless to mention their names. But little more than a third of the profession took the trouble to record their votes, though the voting is done by post-card; and of those who did the majority, as is apparent from the result, belong to the lower intellectual strata of the profession. The men they have sent to the Council are fit representatives of their constituency, and on this ground the choice of the electors may perhaps be justified. But it must make the judicious grieve to see the figure cut by direct representatives whose speech is like that of illiterate tradesmen in a body mainly composed of highly educated gentlemen. I have already told you that the bulk of the profession cared nothing about the

election, but I confess I was not prepared for such a preponderance of abstention. The most significant feature in the election is the intervention of Mr. Victor Horsley, who not having any contest of his own on his hands, threw himself into the fray as the champion of a candidate who, though in himself nothing more than a respectable provincial mediocrity, was by comparison with his competitors a shining ensample of all legislative virtues. On his behalf Mr. Victor Horsley put forth all his undoubted powers as a stump orator. He addressed meetings in various parts of the country, and wrote reams of "rattling and indignant eloquence." He "laid on" with the savagery of Macduff; he was profuse, as is his controversial method, in opprobrious epithets and reckless charges; misused not the King's press, but the medical press, and also the King's English damnably (the expression is Falstaff's and is therefore permissible in polite society); and the end of it all is that his *protégé* has been thoroughly well beaten. If he stands again, he will have a better chance if he can induce Mr. Horsley to take the opposite side or at any rate not to encumber him with help. If he knew Latin, he might say *Non tali auxilio nec defensoribus istis!* The most important result of the election is that Mr. Horsley's influence—which not long ago was preponderant for the simple reason that no other direct representative for England had any scientific standing—has received a serious blow. He is threatened with the fate of all demagogues when they do not push blindly on fast enough to please the rabble at their heels. Already he is being denounced as too conservative; it will be interesting to see what the issue of the contest will be next year when he will have to offer himself for reëlection.

Some excitement has lately been caused among the specialists who take the nose, the ear and the throat as their province by a vigorous onslaught made by Sir Felix Semon on certain excesses of operative zeal which he declares to be too common among them. These gentlemen have since been engaged in fitting the cap on their own or each other's head. Sir Felix Semon is particularly hard on the rhinologists who are apt to look upon the part to the care of which they devote themselves as the center of the human microcosm. Oliver Wendell Holmes somewhere says that there is no little town whose inhabitants do not seem that the axis of the earth sticks out visibly through its market-place. I could name more than one specialist here who seems to look upon the nose as the visible end of our pathological axis. Any trifling deviation of the septum, or bony spur projecting from its surface, or swelling of the turbinate bodies, is treated as the cause of any constitutional or local disturbance that the patient may be suffering from. There may seem to be even less connection between the conditions than there is between Monmouth and Macedonia, but an explanation is easily found in "reflex neurosis." Hence, the nose must be attacked *vi et armis* and cleared of everything that offends the surgical artist's sense of symmetry. If there be no manifestations at all, yet possible foci of incalculable mischief are there and must be removed. How far this scientific fanaticism may go is shown by an incident which occurred at the Laryngological Society not long ago. A case of périchondritis of the larynx was exhibited and puzzled all the pundits present. Some thought the disease was malignant, others syphilitic, others tuberculous; in short, no satisfactory solution was forthcoming. Then a specialist, who, as Malebranche saw everything in God, sees everything in the nose, solemnly called the attention of the learned doctors to a tiny spur on the patient's septum; in that, he said, lay the secret of the laryngeal disease. This oracular utterance was received with a roar of laughter. The serious part of the business is that enthusiasts of this kind carry their fixed idea into practice, and ravage the nose with snares, spokeshaves and cauteries; they radically cure whatever defects and diseases it may have by leaving no structure for disease to lay hold of. *Solitudinem faciunt, pacem appellant.*

The same is the case with regard to adenoid vegetations. The tiniest excrescence in the vault of the pharynx may cause more woes to the patient than the wrath of Achilles brought on the Greeks; therefore it must be excised or destroyed. Some time ago the operation was so fashionable that in many households all the denizens of the nursery were, as it were, passed at the edge of the curette. Fashionable operators reaped a rich harvest; a lady was heard to say that it had cost her $1,250 to have her children's chimneys swept. At the present time a reaction has set in and as usual the pendulum has swung too far the other way. This is in large measure due to the fact that a surgeon of considerable eminence two or three years ago made the remarkable discovery that operative procedures were quite unnecessary, and that "systematic ventilation of the lungs and nasopharynx provided us with a means not only of applying to the nasopharynx such force as is exerted by air being forcibly drawn through it, but by oxygenating the blood more fully and removing more thoroughly the carbonic acid, etc." These objects were to be accomplished by putting the child on its back three times a day for half an hour at a time and making it breathe in and out as deeply as possible through the nose, the mouth being kept shut. Parents were naturally delighted to adopt a method so simple and so inexpensive. Unfortunately, though temporary swelling from local congestion may be reduced, real adenoids are not in practice conjured away by "breathing exercises." It is not easy to understand how they could; the idea savors more of magic than of medicine. Nor has the inventor of the method vouchsafed any explanation of the process by which hypertrophied lymphoid tissue is got rid of by breathing exercises; challenged on the subject, he lies low like B'rer Rabbit and "says nuffin." On the whole one could more readily believe that it could be blown out by a vigorous use of the pocket handkerchief. The position, then, is that for the moment breathing exercises have to a considerable extent taken the place of operation for the removal of adenoids, and a new specialty has grown up which is already a highly profitable source of revenue to those who practise it. One clever lady professor of "health exercises" is said to make $35,000 a year by the application of the method to adenoids alone. Naturally the operative specialists regard this as a revolting form of quackery.

Sir Felix Semon's philippics against overoperating are generally approved of except by those against whom they are directed. It was high time that some one spoke out, for there is unquestionably a vast amount of unnecessary operating not only among those who may be conveniently termed respiratory specialists, but among abdominal surgeons and others. Some of the rhinologists charge $250 or even $500 for the removal of a spur of the enlarged end of a turbinated bone. But it is not all mere lust of gain. At one special hospital it is said that some years ago lower turbinals had to be swept up with a broom on operation days; at another the story runs that a distinguished American visitor who had incautiously placed his hat on the table found it half full of tonsils when he tried to put it on. Such are the results of misdirected enthusiasm. But when enthusiasm takes

the form of frightening private patients into needless operations by lurid pictures of inflammation spreading through the cribriform plate of the ethmoid to the base of the brain; of hopeless deafness likely to be caused by the spread of a simple catarrhal process from the nose to the ear; of ever-imminent danger of cerebral abscess from the presence of a small exostosis in the auditory meatus, we reach a misty mid-region in which enthusiasm at least merges into if it does not become simple charlatanism.

The *Journal of Obstetrics and Gynecology of the British Empire* is the somewhat clumsy title of a new monthly periodical which is to appear in January. We already have the *British Gynecological Journal,* which, if it cannot be said to flourish, at any rate continues to exist. It is the organ of the British Gynecological Society, which has never been looked upon with favor by the leading men of the specialty. One of the causes of this is that among its founders and most active spirits was Lawson Tait, who was too strong a man not to have many enemies, and, it must be added, too Napoleonic in his handling of statistics and other small matters of detail to be altogether approved of by martinets of professional propriety. The new journal starts under the highest auspices. Among its promoters are Sir John Williams, Dr. Champneys, Dr. Herman, Professor Morduch Cameron of Glasgow, Professor A. R. Simpson of Edinburgh, and other prominent obstetricians and gynecologists throughout the kingdom.

The editor-in-chief will be Mr. Alban Doran, formerly assistant to Sir Spencer Wells. He is the author of a successful "Handbook of Gynecological Operations" and assisted Sir James Paget in compiling the great catalogue of pathological specimens in the Museum of the College of Surgeons. The Committee in the terms of their prospectus "aim at making the journal an impartial and complete record of British work, an exponent of British obstetrical and gynecological practice, and an encyclopædia of contemporary thought and achievement in obstetrics and gynecology throughout the world." If the editor is to please his employers he will find some difficulty in making his record of British work either impartial or complete; one could name off hand half a dozen laborers in the vineyard of gynecology, able men, and, like Hamlet, indifferent honest, whose work will be treated as the man who fell among thieves was treated by the Levite.

The gynecological fraternity here is split up in two separate and, as regards the leaders of each, definitely antagonistic sections. They are represented respectively by the Obstetrical Society of London and the British Gynecological Society. These two are nearly equal in numbers, for the simple reason that they are both to a large extent made up of the same men who belong to the category of the *fortisque Gyas fortisque Cloanthus,* who followed Æneas. But the light and leading are almost wholly in the Obstetrical Society. There was a very pretty trial of strength between the two factions a year or two ago when it was proposed that the International Congress of Obstetrics and Gynecology should be held in London. The "British Gynecological" faction made a bold effort to capture the Congress, but the opposition of the "Obstetrical" party brought the scheme to grief, and the Congress had to look elsewhere for a place of meeting. The new journal is another move by the "Obstetrical" for the further discomfiture of the "British Gynecological" party.

That is the true inwardness of its foundation, though no mention of it appears in the prospectus.

TRANSACTIONS OF FOREIGN SOCIETIES.

French.

DIAGNOSTIC VALUE OF JACKSONIAN EPILEPSY—MALARIA WITH LYMPHADENOMA OF THE LIVER AND KIDNEYS—FUNCTIONAL DISTURBANCES OF THE HEART AND DEFORMITY OF THE CHEST—OVARIAN DYSTROPHY—BILIARY PLEURISY—ENLARGEMENT OF THE LIVER AND PHOSPHATES IN THE URINE—BACILLUS OF DYSENTERY—ANTITYPHOID ANTITOXIN.

THE following French societies have held meetings during the past month. The most important papers presented are these:

LABORDE, at the Academy of Medicine, November 19th, outlined a certain number of facts, experimental and clinical, which tend to prove that, if excitation of the zone of Rolando is the most frequent cause of paralysis and convulsions in the extremities, it is not by any means the only one, thus stimulation of the convolutions in front of or behind this zone may equally well provoke the same symptoms. It follows, therefore, from the practical point of view, that in looking for a lesion which produces a paralysis or convulsion, it is necessary not only to inspect the zone of Rolando, but also the convolutions in front of and behind it.

DIEULAFOY, in defense of his original paper on this subject, stated that not only do lesions in this area of the brain cause Jacksonian epilepsy, but also those in the frontal convolutions. He, therefore, concludes that if this new conception of this type of epilepsy is true, it causes no offense to the doctrines of localization within the brain, especially that which names the zone of Rolando as the point of departure for motor impulses to the extremities. This idea has already passed many phases and has finally come to be less and less exclusive in such a way as to enable one to reconcile certain observations which differ from this diagnosis in its absolute form.

LE GENDRE, at the Medical Society of the Hospital, November 15th, gave a history of a man, twenty-seven years old, previously afflicted with malaria and presenting all the signs of obstruction of the aorta. In this patient after admission to the hospital a tender enlargement of the liver was found with a hard, uneven nodular surface. At the same time he had fever, profuse sweats and other severe symptoms and finally died. At the autopsy there were found two strictures of the aorta situated respectively just beyond the sigmoid valves and just before the origin of the brachiocephalic artery. The liver and the kidneys were the seats of multiple lyphadenomata. Fernet stated that he, too, had seen several patients with chronic malaria with which there appeared in various organs of the body lymphomata or lymphadenomata. It seems possible, therefore, that there is a relation between malaria and the development of these tumors.

LAMY discussed functional affections of the heart with extracardial murmurs due to th deformiy of the chest in connection with the case of a man, twenty years of age, who, at the least effort suffered from oppression, palpitation and other cardiac symptoms. A number of physicians had diagnosed his case as one of organic disease of the heart, because the apex-beat was four finger-breadths beyond the nipple and the precordial region was the seat of a loud systolic murmur. Careful examination showed that in reality the cardiac dulness was normal and that the murmur was extra- and not intracardial. The apex of the heart appeared to be depressed simply because the chest was greatly deformed, being very narrow and flat. It is possible that the unfavorable position of the heart within the chest accounted for all the functional trou-

bles of the patient, undoubtedly, however, unduly rapid growth also had a great deal to do with them.

DALCHÉ described the symptoms of a patient who suffered from ovarian dystrophy at the same time presenting many of the symptoms of Basedow's disease and pseudomyxedema, namely, tachycardia, flashes of heat, attacks of sweating, etc. Later there appeared also many of the signs of myxedema, namely, infiltration of the skin, dyspepsia and bloating. It seems, therefore, that the proper treatment for such an ovarian condition should be considered with the other two diseases and their symptoms.

GILBERT and LEREBAULLET, at the Society of Biology, November 9th and 16th, said that they had seen three cases which proved the possibility of complications in the pleura during the course of benign or severe biliary infection. The observations were respectively a simple catarrhal jaundice, severe jaundice secondary to violent attacks of hepatic colic and an angiocholitis following subacutely upon suppuration. These three cases show that pleurisy can be the result of a perforation through the diaphragm by a suppuration through the liver and of a catarrhal angiocholecystitis or gall-stones without damage to the diaphragm. It seems to be due in certain cases to germs of infection in the biliary passages. It can also be caused by general infection of the liver without having much to do with the former. In the second of their two cases a tuberculous pleurisy was stirred up after having become quiescent by a hepatic colic which followed an injury. In general the pathogenesis of these biliary pleurisies may be compared to the same disease after appendicitis, as shown by Dieulafoy. Like that their severity follows that of the original source of infection. Their situation is always on the right side and undoubtedly results through a propagation not by the circulation, but more directly by the lymphatics. The infective material passes through the lymphatic channels and glands of the diaphragm without any perforation whatever of this and then excites pleurisy and pericarditis. A good example of this is found in the complications of pyoperihepatitis. It seems proven, therefore, that this is the true explanation of such complications late in infection of the liver both acute and chronic. Lépine, as long ago as 1882, proved that large livers in man may contain a very large amount of lecithine and that in the same patient and at the same time the urine may show a large quantity of incompletely-oxidized phosphorus or of phosphoglyceric acid. This may be present in many times its normal proportions, usually in the same ratio as the urea. Thus, it is not only in certain nervous conditions as have been lately observed that phosphorus incompletely oxidized is present in the urine, but also in certain individuals this abundance is a definite sign of enlargement of the liver. All of his recent researches have tended to affirm these statements.

MOREUL and RIEUX addressed to this same society notes describing a new organism which they have found alone and associated with other germs in all cases of dysentery. In such cases the other germs are much less active and numerous. This new bacillus ferments lactose without the formation of indol. The serum of animals into which the germ has been injected acquires active powers of agglutination for the bacillus of Eberth, but not for the colon bacillus. Finally, the serum of the immunized animals is antitoxic toward the poison of dysentery, but does not seem to possess any such action toward the bacilli of Eberth and Escherich.

CHANTEMESSE, at the Medical Society of the Hospitals, November 8th, read a paper on the serum-therapy of typhoid fever. From the typhoid toxin he has been able to develop an antityphoid serum with properties not only preventive, but also antitoxic and anti-infectious. The curative value of this serum is realized when one considers the fact that typhoid fever in the various hospitals of Paris shows a death-rate of 29 per cent. in adults and 10 per cent. in children. The mortality of this disease in general appears to have been 18.5 per cent. in Paris during 1899 and 1900. He has treated 100 cases with the serum, 29 in his own service at the Bastien Hospital and the others in the services of other men. All of those inoculated before the tenth day were cured. Of the others, six died; three of perforation of the intestine, one of general peritonitis, two because they were inoculated too late (twenty-first and twenty-fifth days of the disease) in the presence of hyperthermia and a pulse of 140, the sixth of a gangrenous disease of the sacrum; two other patients, who received the serum while they were in a hopeless condition, were also lost. The temperature charts show as a rule a rapid decline of the fever and of the pulse-rate. The injection should be made even in young and vigorous subjects, victims of the disease, severe in type, but without complications. If the serum is given on the eighth day or later, one may even see signs which promise a cure, but these do not continue, the infection returns to its former activity, and then a second injection is necessary which does not stop the malady suddenly but gradually. Moreover, this limit of eight days is not absolute. It depends upon the activity of the infection as related to the strength of the individual. Therefore we see typhoids which are not at all severe checked by an intervention on the eighth, ninth and twelfth days. Occasionally there are relapses after the injection, the patient has not conquered the infection even with its help. Under this treatment the duration of typhoid fever is notably decreased, generally continued improvement, the diarrhea is decreased or stopped in three or four days, the fever falls and the pulse and circulatory excitement returns to nearly normal state. The blood-pressure is so much improved that the injection of saline solution and of the caffeine would be very dangerous. The secretion of urine is more active up to three or four quarts a day. The serum has never been known to produce albuminuria, it even causes slight degrees of this condition to disappear. Finally, the injection of serum produces a manifest hyperleucocytosis with the return of eosinophile cells. Sometimes a rise in temperature is produced by the serum, moderate in degree, short in duration and followed by a temperature which is below that of the disease previous to the injection. This occurs in light cases. In severe cases such reaction may be violent and prolonged, requiring frequent cold baths to conquer. Complications in patients treated with the serum are rare. In his one hundred cases, only three had perforations of the intestines, one pneumonia, two intestinal hemorrhage, one otitis, and two saphenous phlebitis. Of these only the first four died. The injections themselves are not painful nor irritating, are best made in the skin of the forearm, and are rapidly absorbed, more so from this point that anywhere over the abdomen. In his one hundred cases after the injection two showed slight erythema, although the patient received twenty-five or thirty cubic centimeters; the usual dose at the first injection is twelve or fourteen cubic centimeters. If at the end of five or six days the fever has not decreased another injection of four or five cubic centimeters should be given; in a mild case, ten cubic centimeters; more in a severe case. The first dose may be ten cubic centimeters if the injection is given at the outset of

the disease; if it is given later a larger dose must be used at first. In addition to the serum two other means of treatment are necessary for success, cold baths which support the patient and decrease the temperature, and as much fluid food as can be borne.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPEDIC SURGERY.

Stated Meeting, Held November 15, 1901.

George R. Elliott, M.D., Chairman.

Orthopedic Operations for Intractable Cerebro-spinal Lesions.—Dr. Homer Gibney read this paper and reported two cases recently operated on in which marked improvement in locomotion was noticed. The two cases reported were Friedreich's ataxia. The in-co-ordination of the lower extremities was in a measure overcome by tenotomies and fasciotomy for correction of the existing pes cavus and trigger toe. He insisted on first correcting the deformity and then, with properly-adjusted apparatus worn for a long time, claimed marked benefit and in many cases complete removal of the interference incident to the paralyses.

Dr. Henry Ling Taylor said he agreed with Dr. Gibney in regard to the great value of operative procedures in properly-selected cases of paralytic deformity, particularly in children. While it was true that operations designed to remove deformity or restore stability to a helpless limb not infrequenly resulted in disappointment, owing to imperfect mechanical treatment afterward, it was no less true that mechanical treatment was often imperfect or unduly prolonged by the failure to grasp the indications for operating.

Dr. John McG. Woodbury said he could not discuss the paper, as he came late and did not hear it, but expressed the opinion that chiefly operative procedures held out the possibility of recovery or permanent improvement; non-operative measures alone were simply palliative.

Dr. George R. Elliott said the field referred to was a large one and many a cripple was bedridden or going about with contractures and post-paralytic deformities that could and ought to be relieved. He cited as an example a patient upon whom he had recently operated who had been bedridden for three years, owing to post-typhoidal contractures of spinal origin. By proper tenotomies, manipulation, and subsequent use of apparatus, the girl was now walking quite as well as ever.

The Effect of Osteitis of the Knee on the Growth of the Limb.—Dr. Henry Ling Taylor read a paper with this title and said that from measurements of the femoræ, tibiæ, feet and patella, during or after osteitis of the knee, in forty cases where the disease had begun in childhood, the following conclusions were reached: (1) The affected limb, if approximately straight, was longer in the first four years in the large majority of cases. In observed cases of adolescents and adults it was from one to several inches shorter, when the disease had lasted over seven years. (2) The affected femur was nearly always longer in the first four years, and the lengthening of the limb mainly due to lengthening of the femur. In the older cases, after a duration of seven years or more, the femur was markedly shortened. (3) The tibiæ were usually equal in length in the early stages; later the tibia of the affected side might be slightly longer for a time, but oftener shorter; the shortening increased considerably in the older cases, and after the subsidence of inflammation. (4) With limbs of equal length and a duration of several years, the femur of the affected side was found longer and the tibia shorter than its mate. (5) The foot and patella showed a difference in favor of the sound side after one year and frequently before. (6) The stimulation of growth in the affected femur was accompanied by a retardation in the tibia, foot and other parts; growth in the femur itself was finally retarded. The result after many years was often considerable shortening of the limb.

Dr. T. Halsted Myers said that his observations were almost identical with those given by the reader of the paper. In fifteen cases observed by him the lengthening was generally in the femur, and in some cases the femur lengthened while the tibia shortened, in others both bones were lengthened. This occurred during the active stages of the disease, but he could not speak positively as to the ultimate result. He thought it probable that, if the knee recovered with good motion, there was less shortening, and asked Dr. Taylor whether he had noticed that limbs left with stiff joints shorten more than the others. The proper functioning of the joint after the cure of the disease was a most important element in securing the best nutrition and development of the limb.

Dr. H. A. Parish stated that there was no doubt about ultimate shortening in the majority of cases. He cited, however, the case of a girl, aged sixteen years, disease of thirteen years' duration, remarkable for great lengthening during the active stage of the disease. After a partial excision ten years ago, and recently a supra-condylar osteotomy of the femur, and a cuneiform section of the tibia for the relief of flexion deformity, there existed only ⅜ of an inch shortening, with limb at angle of 175°.

Dr. V. P. Gibney said that years ago Dr. Perry had called attention to the subject of the reader's paper, and from the examination of 50 cases had found the femur had grown in length. In his own practice he had been disappointed not to find lengthening. While lengthening was generally believed to be the rule, it could be readily understood how shortening might occur from interference with the nerve supply by pressure of the head of the tibia on the popliteal space. He referred to a patient seen ten years ago who had 1½ inches lengthening after a long course of protection treatment. The girl was still young and the joint disease cured; she was allowed to use the limb freely and atrophy set in. At the same time the joint of the healthy limb was protected and after four or five years the normal femur lengthened and the diseased one shortened, so that ¼ inch difference was the final result.

Dr. Taylor, in reply to Dr. Myers' question, said that lengthening of the femur was the rule while the disease was active, and it was probable that more shortening occurred in the deformed and badly-managed cases. In the latter, the final result would usually be considerable shortening in adult life. He referred to the work of Leusden who took measurements of radiograms, and reached conclusions nearly identical with his, except that Leusden had no opportunity to study adult cases where the disease had begun in childhood.

Dr. V. P. Gibney asked Dr. Taylor how he accounted for the shortening in neglected cases. Dr. Taylor replied that he considered it due to retarded growth.

Dr. V. P. Gibney said he was at a loss to understand why the bones shortened and would be glad to look over the statistics presented by Dr. Taylor. He sup-

posed Dr. Berry's cases would be called neglected cases.

Dr. Taylor said that his statistics in the majority of instances were not made from neglected cases, though it was probable that most of the adult cases might be so called.

MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Stated Meeting, Held December 9, 1901.

TheVice-President, Wm. McCollom, M.D., in the Chair.

The Suppression of Quackery.—The committee appointed to consider methods for the suppression of quackery, Dr. Ransom E. Van Gieson, Chairman, made a report setting forth the difficulties of the problem, and made the following recommendation: "That this Association address a communication to the incorporated medical societies of this city, suggesting the formation of a Conference Committee to meet with your Committee, such Conference Committee to consist of one representative for each one hundred members of the society to be represented; to meet at the earliest possible date to take this matter into consideration and to form, if possible, a permanent body."

The recommendation was unanimously adopted by the Association, after it had been so amended as to include organizations in the State as well as the city.

Nominations for Officers.—Dr. Andrew H. Smith was nominated for president, and Drs. S. Carrington Minor and Reynold W. Wilcox were renominated respectively for chairman of the Borough of the Bronx and member of the Executive Council.

Discussion on the Present Treatment of Cardiac Affections.—The discussion was opened by Dr. Thomas E. Satterthwaite. The variety and stage of a disease, he said, had to be considered in its treatment. While this proposition might be regarded as a truism in the abstract, in the concrete, that is, in actual practice, its force was not fully appreciated. In speaking of the prophylaxis of endocarditis, he stated that in his own experience he felt certain that whenever he had been able to contend effectively against the primary disease on which it depended, he had usually been successful in warding off the endocarditis. When endocarditis has supervened, if the cause happens to be lithemia, the salicylates or other rheumatic remedies are still appropriate, together with rest in a supine position, cooling applications or counterirritation, and opiates, if necessary. In acute endocarditis he would not recommend Caton's plan of giving mercurials or iodides. Until quite recently he had been skeptical as to the cure of malignant endocarditis under any circumstances; but successful cases had been reported, and the use of such intestinal antiseptics as sulpho-carbonate of sodium, inunctions of colloidal silver by the Credé method, and, possibly, injections of streptococcus serum offered hope when otherwise the prognosis was almost hopeless.

In the treatment of the first stage of valvular diseases—lasting until the establishment of compensation—an effort should be made, after the febrile period is passed, to arrest the constitutional disorder, remembering that it tends to chronic pulmonary, hepatic or renal implication. The most careful regimen and suitable hygienic conditions are here of the utmost importance. Little medication is required, but monobromate of camphor (in two-grain doses) or tincture of aconite (in two-minim doses) will prove of service when palpitation occurs, while glonoin (in $^1/_{100}$-grain doses) will usually be all sufficient in threatened heart failure. When the patient has reached the second or stationary period, and satisfactory compensation has been established, he needs no treatment, though advice is still useful. When compensation fails, however, prompt treatment is important, if life is to be saved. Venesection, hydragogues and opiates are to be carefully avoided, and the modern treatment by baths and exercises not only enables one to dispense with these, but also with those drugs that are improperly used to stimulate the heart. Exercises and carbonated baths can be successfully utilized by any physician in any part of the country, if he will faithfully follow the rules that have been reported so fully in the MEDICAL NEWS. In addition to the active and passive movements prescribed, the patient should be instructed to walk daily in the open air, but never to hurry. In fact, no form of physical strain is allowed, while mental strain is also interdicted, and attacks of acute indigestion are to be avoided with special care. As to contra-indications to the use of baths and exercises, patients with parenchymatous nephritis, arteriosclerosis, where apoplexy is threatened, and patients with diabetes, where the amount of sugar is large, are not likely to be benefited, and are not proper subjects for the treatment.

In the subacute dilatation of neurotic or anemic young people, where baths and exercises are not available, nutrients like malt, iron, quinine, and the alkaloids of nux vomica may check the dilatation and restore the heart's tone. In general, strychnine or brucine, in $^1/_{60}$- to $^1/_{30}$-grain doses are good nerve tonics, but, as they contract both heart and arterioles, are undesirable for continuous use. Lately Dr. Satterthwaite has been using the tincture of the hawthorn-berry in the fatty heart as a substitute for strychnine. The cactus or night-blooming cereus is also a serviceable nerve tonic, and suprarenal extract, somewhat similar in action, is a prompt and energetic agent. As cardiac sedatives, bromide of zinc, valerian and aconite are useful. Aconite is of special service in cases where digitalis and drugs of its class have been used to excess. In the mildly neurotic heart, monobromate of camphor is efficient, and belladonna, both internally and externally, is helpful in mild anginoid attacks and arhythmia. In severe attacks of dyspnea Dr. Satterthwaite has found nitroglycerin the most reliable agent. In fact, he now always uses the nitrites for cyanosis or dyspnea in place of digitalis. They operate in less than two minutes and their effects continue for nearly an hour. In continued dyspnea the inhalation of oxygen gas is of great assistance. For sudden and violent attacks he gives capsules containing nitroglycerin, amyl nitrite, menthol and oleoresin of capsicum, suspended in castor oil. All forms of opiates and other similar drugs are to be avoided, as a rule, but if a hypnotic is absolutely essential paraldehyde or trional is to be preferred. If a patient who is unfortunate enough to have taken these drugs will substitute for them a course of baths and exercises, the result will be a revelation, because it will be found at once that such agents can be dispensed with. Laxatives are essential in the treatment of chronic heart diseases, and they should be carried to the point of producing at least two liquid or semi-liquid movements a day. In arteriosclerosis, the iodides are indispensable, and in the syphilitic form the bichloride of mercury is equally essential. Satisfactory treatment is almost always incomplete without some medication directed to the gastro-intestinal tract, and here is a field for the whole range of digestives and anti-fermentatives. In case of overweight great help is obtained from a strict dietary. As a rule, Dr. Satterthwaite uses digitalis only when special complica-

tions arise. It is chiefly desirable for its diuretic effects, but it is slow, requiring some hours before the physiological action is obtained; so that one cannot depend upon it in an emergency. The more he sees of heart disease, he said, the more he is convinced that digitalis is not only of uncertain composition, but unreliable, and therefore a dangerous remedy, especially so far as its direct action is concerned. It may produce spasms of both heart and vessels. In fatty hearts it is particularly dangerous, and even in urinary suppression, in an attempt to get its diuretic effect, one may cause fatal cardiac contraction. Having referred to strophanthus, convallaria, adonis, caffeine, sparteine and apocynum, he said, in conclusion, that he had tried to make it appear that in modern medicine milder methods are replacing the older ones, and in particular that the idea of absolute rest has been superseded by rest alternating with activity; venesection has been supplanted by restoration of the capillary circulation, mainly by resistant exercises and carbonated baths; hydragogue cathartics are generally replaced by stomachics, mild laxatives, and diuretics, and heart stimulants by general nerve tonics or sedatives; while drugs of the digitalis group are being gradually abandoned except in particular instances.

Endocarditis and its Treatment.—Dr. Leonard Weber spoke on this topic. In the early years of his practice, he said, he believed, as he had been taught, that endocarditis complicating acute febrile affections was almost always followed by chronic valvular disease; but, as his experience extended, he observed that in some of the cases the patients made a complete recovery, the affected valves returning to their normal condition. When he had seen two or three cases of this kind it occurred to him that means might perhaps be found to arrest the progress of endocarditis and assist Nature to effect a cure by the gradual absorption of the inflammatory materials. When a cusp is affected by benign endocarditis complete absorption of the effused materials may occur, but, if necrosis of a part takes place the valve is permanently damaged. So, too, when calcareous deposits result. It is very desirable, therefore, that something should be done for the patient before there occurs such an amount of connective tissue formation that permanent results will almost inevitably follow. How, then, shall Nature be imitated in effecting a cure? In the first place, there should be absolute rest in the recumbent posture for at least three weeks. Secondly, the continued application of ice, day and night, for three weeks or more. Formerly he had employed counterirritation by means of blisters, but for the past ten years had used ice instead. This is best applied in a tin box curved to fit the surface of the chest. The cold is very useful also in allaying pain and restlessness. It diminishes cardiac action and renders drugs to a great extent unnecessary. A small dose of morphine (⅛ or ⅙ grain) is the ideal remedy, when required. As to the use of blisters, Caton claims that their action is not a matter of counterirritation, but that they directly stimulate the trophic nerves of the part. In the third place, in the fourth week small doses of the iodides should be commenced. Sodium iodide is preferable, and from 3 to 7½ grains may be given three times a day, beginning with the smallest dose. He believes that he has seen good results follow this plan of treatment. It is important that the diagnosis of endocarditis should be made as early as possible. The first evidence of its occurrence (from two to five days before there is any murmur) is a change in the clear, sharp ring of the heart sounds, which are noticed to be a little softer and rougher than usual. When this change is detected endocarditis may be diagnosed, and the treatment indicated should be at once entered upon. The mistake is frequently made of discharging a rheumatic-fever patient too soon. By keeping the patient quiet and continuing the use of the salicylates, acute endocarditis may often be prevented.

The Right and Wrong Use of Digitalis Based on Cardiac Pathology.—Dr. Wm. H. Porter read a paper on this subject which will be published in the MEDICAL NEWS.

The Schott Exercises.—Dr. Victor E. Neesen made some remarks on the administration of the Schott exercises, and gave a practical demonstration of the various movements, fourteen in number. He said that since he had been in New York he had seen a great deal of harm done by injudicious attempts to reproduce the Schott treatment. The action of the exercises and baths were very much the same as that of digitalis, diminishing frequency, increasing force, and lengthening the diastole. In cases of arhythmia it is frequently noticed that in one séance the pulse may not stop at all. Among the rules that should be observed in giving the exercises are the following: The movements of the arms should alternate with those of the legs. The patient should be instructed not to hold his breath or strain. No constriction or pressure should be employed by the operator. The movements should be made very slowly, especially at first. In conclusion, Dr. Neesen said it was well to remember the words of Schott—movements without design weaken the heart, while movements with design strengthen the heart.

Exercise before Compensation Fails.—Dr. S. S. Burt said he was a great believer in suitable exercise before the failure of compensation, as it puts the patient in better condition and thus tends to delay such failure. The exercise should be moderate and not competitive, and the patient should always be warned against going to excess in the matter.

The Value of Digitalis.—He said that, while in general not much of a believer in drugs, he certainly would not give up digitalis for any other remedy. If the article used is good and pure and it is given in the right cases, digitalis is of the greatest possible value in ruptured compensations. He employed it always in mitral stenosis. It was of less value in aortic regurgitation, but he did not hesitate to use it there when the heart had given out. Even in aortic obstruction it was sometimes of service. He preferred the tincture and had given up using digitalin, of which he was somewhat afraid. In very edematous conditions digitalis would sometimes fail to act because there was too much pressure. In one such instance he had resorted to tapping the legs, and after a portion of the fluid had been thus evacuated the drug acted so efficiently that the dropsy disappeared entirely. From an extended practical experience he was fully convinced of the very great value of digitalis.

Prophylaxis and Treatment of Endocarditis.—Dr. Egbert Le Fevre said that he was very glad to hear the views expressed by Dr. Weber. He believed that, if cases of rheumatism with threatened endocarditis were treated with the same care as cases of other febrile affections in which severe sequelæ were liable to occur, there would be fewer cases of valvular heart disease than at present. As regards the treatment of endocarditis he had found that in some instances the application of ice did better than counterirritation, and *vice versa*. Sometimes the application of equal parts of chloroform and belladonna over a small surface was very servceable. Out of 34 cases in which he had used colloidal silver, in 22 it had no effect, while in the others it had seemed to cause a marvelous change in the character of the murmur and the heart sounds. In

the iodides and mercurials, for the purpose of causing resolution, as it used to be called, he still had some faith.

Digitalis Has a Legitimate Field.—When given in small doses he believed that digitalis has a legitimate field, and that there could be no question of its value when compensation begins to fail. It should be given preferably at bedtime and in doses of 2 or 3 drops of the tincture. Like Dr. Burt, he even used it in aortic regurgitation. The contraction of the ventricle was a conservative process. Extract of the suprarenal capsule he did not think of benefit.

Digitalis and the Nitrites.—Dr. R. W. Wilcox said that if ten years ago the question had been asked whether digitalis did more good than harm the answer, he thought, would have been doubtful. It is different now, however, because it is given so much in combination with the nitrites. The nitrites are of great service, but are absolutely contra-indicated in old men with rigid arteries and in patients with renal changes. When emergencies rise that call for nitro-glycerin and amyl nitrite, these agents will seldom be found wanting. As to cactus, he said it was the only drug with which he was acquainted that could change a slow pulse into a quick one.

BOOK REVIEWS.

ANESTHETICS AND THEIR ADMINISTRATION. By FREDERICK W. HEWITT, M.A., M.D. Cantab., Anesthetist to His Majesty the King; Anesthetist and Instructor in Anesthetics at the London Hospital. Second Edition. London and New York: Macmillan & Co.

IT has long been customary for writers on anesthesia to deplore the lack of systematic instruction in this branch of practice. The observation of cases and, after a period of such observation, the actual administration of anesthetics form the only satisfactory method of training and instruction, and at present such training, in this country at least, is the exclusive privilege of the hospital interne. Familiarity with Dr. Hewitt's work will furnish the best possible foundation for hospital training in the administration of anesthetics. For those who are thrown into practice without hospital training the book is invaluable, being so constructed as to make available practical hints on the conduct of any case in which doubt exists concerning the anesthetic which should be given in any kind of operation and on any type of patient. The practical value of the first edition is beyond dispute; the present edition has the added merit of formal completeness, owing to the introduction of new chapters on the history, pharmacology and experimental physiology of general surgical anesthesia.

PATHOLOGICAL TECHNIQUE. A Practical Manual for Workers in Pathological Histology and Bacteriology, Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By FRANK BURR MALLORY, A.M., M.D., Assistant Professor of Pathology, Harvard University Medical School, and JAMES HOMER WRIGHT, A.M., M.D., Director of the Clinico-Pathological Laboratory of the Massachusetts General Hospital; Instructor in Pathology, Harvard University Medical School. Second Edition. Philadelphia: W. B. Saunders & Co.

A BOOK designed both as a guide to beginners and as a source of reference to advanced students rarely proves adequate to the demands which it professes to supply. The present volume is an exception to the rule. It is a book which the laboratory worker in pathological histology and bacteriology can use intelligently and profitably from the beginning to the end of his technical course. The three major parts of the work are devoted respectively to postmortem examinations, to bacteriological methods, and to histological methods. In this edition, as in the first, there is no separate discussion of methods of examination of the urine; those points which fall within the province of the pathologist find incidental mention. In the section on bacteriology the authors have amplified the description of the parasite of actinomycosis and have inserted descriptions of the bacillus of bubonic plague, of the parasite of mycetoma (Madura foot), and of Wright's method for the cultivation of anaërobic bacteria. In its present form and place the section on the clinical examination of the blood is practically useless. Such a description of technic, standing alone, can be of no assistance to the clinical worker. As an introduction to a description of the clinical pathology of the blood it would lack completeness, but would occupy a more logical and useful position.

ATLAS AND PRINCIPLES OF BACTERIOLOGY AND TEXT-BOOK OF SPECIAL BACTERIOLOGICAL DIAGNOSIS. By Dr. K. B. LEHMANN and R. O. NEUMANN, M.D., Ph.D. Edited by GEORGE H. WEAVER, M.D. Second Edition. W. B. Saunders & Co., Philadelphia and London.

IN the preparation of this second edition the literature of the past three years has been conscientiously studied. Everything which seems of importance up to about June, 1899, has been taken up. The sections on the morphology, chemical composition and biology and micro-organisms contain all that is to be desired. The statements are clean cut and leave no doubt in the mind of the reader as to the ideas the authors intend to convey. Especially meritorious are the sections on the chemical activity and pathogenic action of bacteria. These important properties are dealt with in a much more competent and exhaustive manner than is usual in works of this kind. A number of the definitions throughout these sections are different from those in ordinary use and are not likely to be accepted, in this country at least, for instance the definitions of the terms asepsis, antisepsis, sterilization and disinfection.

The nomenclature adopted in the classification of bacteria is the same as that employed in the first edition. It is as simple and accurate as the present knowledge will allow and can be warmly commended. In Part II. (Special Bacteriology) descriptions of about eighty species are newly introduced. In this section of the work the text is admirably arranged for ready reference. Of special mention is the exhaustive consideration of the typhoid, diphtheria and tubercle bacilli. The classification of the last two organisms together with the lepra and smegma bacillus under actinomycetes cannot be commended.

A portion of the appendix is devoted to the essentials of bacteriological technic. This section of the work is markedly condensed and will be found convenient for reference by the advanced worker. It is hardly exhaustive enough, however, to be of much use to the beginner. Taken *in toto* the work forms an interesting addition to existing bacteriological literature.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

PUBLIC HEALTH REPORTS. Vol. XV., Parts I. and II. Government Printing Office, Washington.

RATIONAL HYDROTHERAPY. By Dr. J. H. Kellogg. 8vo, 1,193 pages. Illustrated. F. A. Davis Company, Philadelphia.

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